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ABSTRACT

This comprehensive annotated resource list is designed to assist in the selection of science resources for elementary classrooms. This guide is organized by grade level, and within that heading by series and topic. Following the lists for individual grades is a list of elementary science resources, which are not topic specific, authorized for grades one through six. (Contains lists of general resources and suppliers and a title/series index.) (DDR)

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ED 425 073

ELEMENTARY SCIENCE

Authorized Resources Annotated List

August 1998

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ELEMENTARY SCIENCE

*Authorized Resources
Annotated List*

August 1998

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12360 – 142 Street

Edmonton, Alberta, Canada T5L 4X9

Telephone: 403-427-2767

Fax: 403-422-9750

Internet: <http://www.lrdc.edc.gov.ab.ca>

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Overview

This comprehensive, annotated resource list is designed to assist in selecting science resources for elementary classrooms.

Organization by Grade

The authorized resources are listed under two main headings: Series and Topic.

General Resources

Following the lists for individual grades is a list of elementary science resources, which are not topic specific, authorized for Grade 1 to Grade 6. These resources are listed alphabetically with Authorized Teaching resources listed first, followed by Support resources.

Additional Information

A listing of suppliers, including Regional Resource and Urban Media Centres, and a title/series index are included as additional information.

Updates

Updates to this list will be provided periodically. Information on new resource authorizations is included in several places: the Authorized Resources Database, available through the Alberta Education web site at <<http://ednet.edc.gov.ab.ca>> under Students and Learning, Learning and Teaching Resources; the Learning Resources Distributing Centre (LRDC) *Buyers Guide* and LRDC web site at <<http://ednet.edc.gov.ab.ca/lrdc>>; and in *Connection*, published three times a year, available at the Alberta Education web site, and distributed to all jurisdictions and schools by the Student Programs and Evaluation Division.

Pricing Information

April 1998 LRDC prices are included in this document. For confirmation of prices, GST and shipping charges, please check the LRDC *Buyers Guide*; contact the LRDC at 403-427-2767, dial 310-0000 to be connected toll free, fax 403-422-9750, or visit their web site; or contact the supplier. LRDC prices are firm until March 1999; however, these may change without notice if warranted by exceptional circumstances.

Series

The science series can comprise both teaching and student learning materials. In this annotated list, the resources that cover all or a majority of topics in a grade level are listed first.

Individual Resources by Topic

These resources stand alone as teacher reference or student learning materials. The single component resources often have application across a range of grade levels and are listed alphabetically within the grade level and topic. Resources that are suitable for more than one grade and/or topic appear for each of the applicable grades and topics, thus providing a comprehensive listing of materials for each grade and topic.

Icons



Print



Videocassette

AUTHORIZATION OF RESOURCES

Alberta Education selects, acquires, develops, produces, translates and authorizes the best possible instructional materials for the implementation of approved programs of study. Resources authorized by the Minister meet Alberta Education's criteria for acceptability, including:

- criteria for curriculum fit and instructional design
- criteria for tolerance and understanding
- developmental analysis
- physical properties
- cost
- Canadian content.

Resource Authorization Categories

Basic learning resources are those student learning resources authorized by Alberta Education as the most appropriate for addressing the majority of outcomes of the course(s) or substantial components of the course(s); or the most appropriate for meeting general outcomes across two or more grades, subject areas or programs as outlined in provincial programs of study. Basic learning resources may include any resource format, such as print, computer software, manipulatives or videocassette.

Authorized Teaching resources are those teaching resources produced externally to Alberta Education; e.g., by publishers, that have been reviewed by Alberta Education, found to meet the criteria of review, and identified as the best available resources to support the implementation of programs of study and courses and to support the attainment of the goals of education. Teaching resources produced as service documents by Alberta Education, such as diagnostic programs and monographs, are authorized by definition.

Support learning resources are those student learning resources authorized by Alberta Education to assist in addressing some of the outcomes of the course(s) or components of the course(s); or to assist in meeting the outcomes across two or more grade levels, subject areas or programs as outlined in the provincial programs of study.

Note:

Section 44(2)(a.1) of the *School Act*, Statutes of Alberta 1988, Chapter S-3.1, as amended, indicates that a school board may "...develop or acquire instructional materials for use in programs or in schools." **Selection of instructional resources is not restricted to those authorized by Alberta Education.**

ELEMENTARY SCIENCE

The program of studies for elementary science is organized around five topics for each grade level. For ease of reference, the following grade and letter codes are used to identify each topic.

Grade	Topic
1	A. Creating Colour B. Seasonal Changes C. Building Things D. Senses E. Needs of Animals and Plants
2	A. Exploring Liquids B. Buoyancy and Boats C. Magnetism D. Hot and Cold Temperature E. Small Crawling and Flying Animals
3	A. Rocks and Minerals B. Building with a Variety of Materials C. Testing Materials and Designs D. Hearing and Sound E. Animal Life Cycles
4	A. Waste and Our World B. Wheels and Levers C. Building Devices and Vehicles that Move D. Light and Shadows E. Plant Growth and Changes
5	A. Electricity and Magnetism B. Mechanisms Using Electricity C. Classroom Chemistry D. Weather Watch E. Wetland Ecosystems
6	A. Air and Aerodynamics B. Flight C. Sky Science D. Evidence and Investigation E. Trees and Forests

GRADE 1 SERIES

EXPLORATIONS IN SCIENCE

Author(s): Campbell, S. et al.

Publisher/Distributor: Addison-Wesley Publishers

This series is an activity-based program that encourages students to get involved in science by exploring and experimenting with materials while working in a variety of groupings and settings. The program is organized in topics of study around five themes that provide a framework for science concepts and principles. The teacher's resource book has blackline masters; literature links; and extensive strategies for planning, implementing and exploring.

TEACHER RESOURCES

SUPPLIER: LRDC



Explorations in Science: Level One: Assessment Authorized Teaching Handbook

Copyright/ISBN 1993 / 0201606836

Order No.	Est. Price
291550	\$27.10



Explorations in Science: Level One: Teacher's Resource Book (Modular Ed.) (Includes Alberta Implementation Guide) Authorized Teaching

Copyright/ISBN 1995 / 0201881799

291568	\$212.60
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INNOVATIONS IN SCIENCE

Author(s): Clarke, C.; Cooke, S.

Publisher/Distributor: Holt, Rinehart & Winston/Harcourt Brace & Co.

This series supports student-centred, activity-based science. It is organized around themes and topics that provide science-technology-society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

TEACHER RESOURCES

SUPPLIER: LRDC



Innovations in Science: Level 1: Teacher Resource Package

Copyright/ISBN 1990 / 0774701889

Authorized Teaching

Order No.	Est. Price
293241	\$178.25

LET'S DO SCIENCE

Publisher/Distributor: Science Alberta Foundation

This six-volume teacher guide provides a ready reference for planning and teaching the Alberta elementary science program. It provides a general introduction to the program and topic by topic outlines that include background information, suggested activities for teaching and learning, and specific references to student and teacher resources for each activity.

TEACHER RESOURCES

SUPPLIER: LRDC



Let's Do Science: Level 1: A Time-Saving, Teacher-Friendly Guide to Alberta's Elementary Science Curriculum

Copyright/ISBN 1995 / 1896618014

Authorized Teaching

Order No.	Est. Price
295594	\$29.90



Let's Do Science: Levels 1 - 6 (Complete Set)

Authorized Teaching

295586	\$169.55
--------	----------

Note: April 1998 LRDC prices are quoted.

GRADE 1 – TOPIC A



Art and Science Connection, The: Hands-On Activities for Primary Students

Grades 1, 4 *Authorized Teaching*
Topics 1A, 1D, 1E, 4A, 4D, 4E

Author(s) Tolley, K.

Copyright/ISBN 1993 / 0201455447

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 298069

Est. Price \$35.45

This guide is a resource for the classroom teacher, or specialist, interested in integrating art and science. There are 30 lessons, each with clear suggestions for organizing and developing the activity, including sections on getting ready, observing, comparing and describing, drawing conclusions, and creating. Blackline masters are provided.



Colours

Series: *First Discovery*

Grade 1
Topic 1A

Support

Author(s) de Bourgoing, P.; Jeunesse, G.

Copyright/ISBN 1990 / 1851030883

Publisher Moonlight Publishing Ltd.

Distributor University of Toronto Press

Supplier LRDC

Order No. 310300

Est. Price \$12.10

Sources of colours and the application of colours in everyday things are illustrated in this small book. Transparent overlays show the effect of adding one colour to another.

GRADE 1 – TOPIC B

Autumn; Spring

Series: *Seasons, The*

Grade 1

Support

Topic 1 B

Title	Order No.	Est. Price
Autumn	310508	\$53.10
Spring	310516	\$53.10

Copyright 1986

Publisher Centron Productions

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Changes in the environment and in seasonal activity are shown and described from the point of view of children.

How Animals Get Ready for Winter (2nd Ed.); Why Animals Live Where They Do (2nd Ed.); Plants and Animals Depend on Each Other (2nd Ed.)

Series: *Ecology for Beginners*

Grade 1

Support

Topic 1 B

Title	Order No.	Est. Price
How Animals Get Ready for Winter (2nd Ed.)	310524	\$53.10
Plants and Animals Depend on Each Other (2nd Ed.)	310607	\$53.10
Why Animals Live Where They Do (2nd Ed.)	310590	\$53.10

Copyright 1992

Publisher Centron Productions

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

How Animals Get Ready for Winter: Storage of food and accumulation of body fat are two methods by which animals prepare themselves for winter. Migration patterns, ways of seeking shelter for the winter and body adaptations are also shown.

Why Animals Live Where They Do: The common needs of animals and the different ways they meet those needs are described and illustrated. The dependence of animals on their particular environments is shown.

Plants and Animals Depend on Each Other: Animal dependence on plants for sources of food and shelter, as well as plant dependence on animals for nutrients and assistance in reproduction are illustrated. The exchange of oxygen and carbon dioxide is also described.

How Animals Live Through Winter (2nd Ed.)

Series: *Ecology for Beginners*

Grade 1

Support

Topic 1 B

Copyright 1991

Publisher Centron Productions

Distributor Magic Lantern Communications Ltd.

Supplier Regional Resource and Urban Media Centres (Non-Erasure) / LRDC

Order No. 329591

Est. Price \$53.10

BPN 350601

Fur, feathers and the accumulation of body fat help animals survive the winter. Different ways of finding food and shelter in the winter are also shown.

Note: Duplication rights for this title have expired, but it is still available for preview from the Regional Resource and Urban Media Centres, as well as for purchase from the LRDC.

Knee High Nature: Fall: A Guide to Nature, Activities and Fun

Series: *Knee High Nature*

Grade 1

Authorized Teaching

Topic 1 B

Author(s) Wishart, P.; Hayley, D.

Copyright/ISBN 1994 / 155105048X

Publisher Lone Pine Publishing

Distributor Lone Pine Publishing

Supplier LRDC

Order No. 304197

Est. Price \$11.00

This coilbound teacher resource book provides information on living things found in Alberta environments, as well as suggestions suitable for indoor and outdoor studies. Each of the four seasonal resources focuses on particular groups of mammals, birds, insects and other living things that students are likely to encounter in a field trip taken in that season. The resources include stories and songs, and are extensively illustrated with simple line drawings.

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Note: April 1998 LRDC prices are quoted.

GRADE 1 – TOPIC B



Knee High Nature: Winter: A Guide to Nature, Activities and Fun

Series: *Knee High Nature*

Grade 1

Authorized Teaching

Topic 1 B

Author(s) Hayley, D.; Wishart, P.

Copyright/ISBN 1993 / 1511050382

Publisher Lone Pine Publishing

Distributor Lone Pine Publishing

Supplier LRDC

Order No. 304204

Est. Price \$11.00

This coilbound teacher resource book provides information on living things found in Alberta environments, as well as suggestions suitable for indoor and outdoor studies. Each of the four seasonal resources focuses on particular groups of mammals, birds, insects and other living things that students are likely to encounter in a field trip taken in that season. The resources include stories and songs, and are extensively illustrated with simple line drawings.



Migration (2nd Ed.)

Series: *Animal Behavior*

Grade 1

Support

Topic 1 B

Copyright 1991

Publisher Coronet Film & Video

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Order No. 312695

Est. Price \$53.10

This video shows how animals from all parts of the world respond to seasonal changes by migrating from one environment to another. Animals shown include birds, reptiles, mammals, amphibians, fish and insects. Narration may be somewhat advanced for Grade 1 students.

GRADE 1 – TOPIC C



Building Things

Series: *Let's Explore Science*

Grade 1

Support

Topic 1C

Author(s) Evans, D.; Williams, C.

Copyright/ISBN 1993 / 0590749447

Publisher Scholastic Canada Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 292475

Est. Price \$11.35

The nature of materials, their characteristics and use in constructing things are described and illustrated. Suitable for reading aloud to children, this book may be used in connection with an activity centre or for introducing student activities. A brief guide for parents and teachers is included.



Design and Technology

Series: *Bright Ideas*

Grades 1, 3

Authorized Teaching

Topics 1C, 3B

Author(s) Newton, D.; Newton, L.

Copyright/ISBN 1990 / 0590708058

Publisher Scholastic Publications Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 300913

Est. Price \$13.80

This teacher resource book shows over 60 different construction projects, grouped under six theme areas. Each activity indicates a suggested age range, group size, materials and specific task; provides an illustration; and makes suggestions for initiating the activity and follow-up. Activities include constructing model houses, garden tools, vehicles, boats and bridges. An introduction to design and technology studies and a section on evaluation are included.



Design and Technology 5-12

Series: *Science Around Me*

Grades 1, 2, 3, 4

Authorized Teaching

Topics 1C, 2B, 3B, 4C

Author(s) Williams, P.; Jinks, D.

Copyright/ISBN 1985 / 1850000492

Publisher The Falmer Press

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292433

Est. Price \$34.05

The methods and materials for teaching design technology to elementary students are described and illustrated, using examples of student drawings and photographs of student work. Set in the context of the National Curriculum of Great Britain, the purpose and meaning of design technology are explained. The introductory section is followed by examples of student construction, including six case studies on such topics as windmills, the Roman chariot and car design.



Design Technology: Children's Engineering

Series: *Science Around Me*

Grades 1, 3, 4, 5

Authorized Teaching

Topics 1C, 3B, 4C, 5B

Author(s) Dunn, S.; Larson, R.

Copyright/ISBN 1990 / 1850005907

Publisher The Falmer Press

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292425

Est. Price \$36.75

The philosophy and methods for learning about technology are described in a clear, straightforward manner and are illustrated with examples of student work. Samples include student writing and drawings, photographs of student work, and vignettes of classroom work. Learning and instructional strategies are described.

Note: April 1998 LRDC prices are quoted.

GRADE 1 – TOPIC C



Hands-On Technology

Grades 1, 2, 3, 4 *Authorized Teaching*
Topics 1C, 2B, 3B, 4C

Author(s) Idle, I.K.

Copyright/ISBN 1991 / 0748712968

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292714

Est. Price \$33.55

This teacher resource provides a general introduction to the methods and materials for teaching technology topics to young children. Set in the context of the National Curriculum of Great Britain, this resource shows the kinds of learnings that are appropriate for the younger child and provides examples of activities and actual student work.



Nelson Science: Teacher's Classroom Manual: Key Stage 1

Series: Nelson Science

Grades 1, 2, 3 *Authorized Teaching*
Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D

Author(s) Hopkins, S.; Hunter, A.

Copyright/ISBN 1990 / 0174231849

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293051

Est. Price \$76.40

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.

GRADE 1 – TOPIC D



Art and Science Connection, The: Hands-On Activities for Primary Students

Grades 1, 4 *Authorized Teaching*
Topics 1A, 1D, 1E, 4A, 4D, 4E

Author(s) Tolley, K.

Copyright/ISBN 1993 / 0201455447

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 298069

Est. Price \$35.45

This guide is a resource for the classroom teacher, or specialist, interested in integrating art and science. There are 30 lessons, each with clear suggestions for organizing and developing the activity, including sections on getting ready, observing, comparing and describing, drawing conclusions, and creating. Blackline masters are provided.



Feel and Touch

Series: *First Science*

Grade 1

Topic 1D

Support

Author(s) Rowe, J.; Perham, M.

Copyright/ISBN 1993 / 0516081322

Publisher Children's Press

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293085

Est. Price \$17.90

This illustrated softcover book shows the ways in which a sense of touch is useful. Students are encouraged to try a variety of activities designed to extend their awareness of their senses.



Hearing

Series: *Senses, The*

Grade 1

Topic 1D

Support

Author(s) Suhr, M.; Gordon, M.

Copyright/ISBN 1993 / 0750206586

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293118

Est. Price \$16.55

Brief text and humorous illustrations show how the senses are used. Body structures that detect and transmit sensory experiences are identified.



Nelson Science: Teacher's Classroom Manual: Key Stage 1

Series: *Nelson Science*

Grades 1, 2, 3

Authorized Teaching

Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D

Author(s) Hopkins, S.; Hunter, A.

Copyright/ISBN 1990 / 0174231849

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293051

Est. Price \$76.40

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.



Senses

Series: *Criss Cross*

Grade 1

Topic 1D

Support

Author(s) Songhurst, H.

Copyright/ISBN 1993 / 0750207647

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 292988

Est. Price \$19.80

Human and animal senses are described in large print and illustrated by large format colour illustrations.



Senses, The

Series: *Starting Science*

Grade 1

Topic 1D

Support

Author(s) Davies, K.; Oldfield, W.

Copyright/ISBN 1991 / 0750202084

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293093

Est. Price \$18.40

This 32-page hardcover book introduces the five senses and suggests a variety of activities for readers to become more aware of their senses. Examples of ways in which animals and humans use their senses are described.

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Note: April 1998 LRDC prices are quoted.

GRADE 1 – TOPIC D



Senses (Video and Teacher's Guide)

Series: *Wonder Why?*

Grade 1

Topic 1 D

Copyright 1990

Publisher CTV Television

Distributor CTV Program & Archive Sales

Supplier Regional Resource and Urban Media Centres
(Non-Erasure)

BPN 341401

Host Richard Zurawski helps his young co-hosts discover many things about the world in which they live. In this video, the world around us is perceived through the senses of sight, touch, smell, taste and hearing. Without them, we would not know that there is a world out there. We can fool the senses that we have. There are optical illusions and even ways to fool touch and taste. The hosts study the senses and find out how important they are to us.

Note: Duplication rights for this title have expired, but it is still available for preview from the Regional Resource and Urban Media Centres.



Sight

Series: *Senses, The*

Grade 1

Topic 1 D

Author(s) Suhr, M.; Gordon, M.

Copyright/ISBN 1993 / 075020656X

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293126

Est. Price \$16.55

Brief text and humorous illustrations show how the senses are used. Body structures that detect and transmit sensory experiences are identified.



Smell

Series: *Senses, The*

Grade 1

Topic 1 D

Author(s) Suhr, M.; Gordon, M.

Copyright/ISBN 1993 / 0750206578

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293134

Est. Price \$16.55

Brief text and humorous illustrations show how the senses are used. Body structures that detect and transmit sensory experiences are identified.

Note: April 1998 LRDC prices are quoted.



Taste

Series: *Senses, The*

Grade 1

Topic 1 D

Author(s) Suhr, M.; Gordon, M.

Copyright/ISBN 1993 / 0750206594

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293142

Est. Price \$16.55

Brief text and humorous illustrations show how the senses are used. Body structures that detect and transmit sensory experiences are identified.



Touch

Series: *Senses, The*

Grade 1

Topic 1 D

Author(s) Suhr, M.; Gordon, M.

Copyright/ISBN 1993 / 0750206551

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293150

Est. Price \$16.55

Brief text and humorous illustrations show how the senses are used. Body structures that detect and transmit sensory experiences are identified.



What's It Like? Starter Pack (What's It Like? Big Book; Look at That!; Just a Touch; How's That?; Helping Hands; What's It Like? Teachers' Resource)

Series: *Science Alive*

Grade 1

Topic 1 D

Authorized Teaching

Copyright/ISBN 1995 / 0130006947 (Starter Pack)

Publisher Mimosa Publications

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 336281

Est. Price \$119.60

This teacher resource package includes activity cards and blackline masters in a clear and comprehensive format. It also contains a big book for use with large groups, small books and a hanging organizer. The resource enhances early learning experiences in science and technology by providing a wide range of hands-on, interactive activities.

GRADE 1 – TOPIC E



Animals

Series: *Starting Science*

Grade 1
Topic 1 E

Support

Author(s) Davies, K.; Oldfield W.

Copyright/ISBN 1991 / 0750202815

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 301101

Est. Price \$11.20

A variety of animal characteristics are described and illustrated, using many different kinds of animals as examples. Linkages are made to human characteristics, and explanatory activities are suggested.



Animals in the Classroom: Selection, Care, and Observations

Grades 1, 2, 3
Topics 1E, 2E, 3E

Authorized Teaching

Author(s) Kramer, D.C.

Copyright/ISBN 1989 / 020120679X

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292293

Est. Price \$39.80

This resource book provides basic information on the characteristics and care of a variety of mammals, birds, reptiles, amphibians, fish, insects and other small animals suitable for study in the classroom. An introductory section has general background on things to consider before bringing animals into a school. Each section includes notes on handling, housing, diet and reproduction. A brief list of observations, activities and questions is also included in each section.



Art and Science Connection, The: Hands-On Activities for Primary Students

Grades 1, 4
Topics 1A, 1D, 1E, 4A, 4D, 4E

Authorized Teaching

Author(s) Tolley, K.

Copyright/ISBN 1993 / 0201455447

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 298069

Est. Price \$35.45

This guide is a resource for the classroom teacher, or specialist, interested in integrating art and science. There are 30 lessons, each with clear suggestions for organizing and developing the activity, including sections on getting ready, observing, comparing and describing, drawing conclusions, and creating. Blackline masters are provided.



Babies and Their Parents (2nd Ed.)

Series: *Animal Behavior*

Grades 1, 3
Topics 1E, 3E

Support

Copyright 1991

Publisher Coronet Film & Video

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Order No. 322008

Est. Price \$116.75

Frogs, turtles, crocodiles, birds, jackals and elephants are used to illustrate the ways animals provide for their young. The instructional sequence explains how variations in parental care involve the provision of food, shelter, protection and training for the young.

BEST COPY AVAILABLE

Note: April 1998 LRDC prices are quoted.

GRADE 1 – TOPIC E



Earthworms (Includes: How Earthworms Live; Earthworms and Their Food; How Earthworms Grow)

Series: *Sunshine Science*

Grades 1, 2, 3

Topics 1E, 2E, 3E

Support

Author(s) Plater, I.

Title	Order No.	Est. Price
How Earthworms Live (6 copies per package)	301614	\$37.35
Earthworms and Their Food (6 copies per package)	301622	\$37.35
How Earthworms Grow (6 copies per package)	301630	\$37.35

Copyright 1995

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

The structure, life habits and relationships of earthworms to their environment is described in this set of three booklets. The first booklet shows how earthworms are adapted to their environment, the second shows their structure and their role within the environment, and the third shows their reproduction. All booklets have a glossary and index and are illustrated with large colour photographs.



First Look at Birds, A

Grades 1, 3, 5, 6

Topics 1E, 3E, 5E, 6B

Support

Copyright 1993

Publisher Aims Media

Distributor Canadian Learning Company Inc.

Supplier LRDC

Order No. 325185

Est. Price \$58.90

This video introduces viewers to a wide variety of bird species and describes the anatomic features that suit each bird to its habitat and way of living. Feeding habits, breeding, migration and communication methods are shown.



How Animals Get Their Food

Grade 1

Topic 1 E

Support

Copyright 1988

Publisher National Geographic Society

Distributor National Geographic Society

Supplier Regional Resource and Urban Media Centres (Non-Erasure)

BPN 287901

Foods and feeding habits of a variety of animals from temperate and tropical environments are shown. Concepts of herbivore, carnivore and omnivore are developed.



Living and Learning Starter Pack (Big Book; I'm Learning; I'm Alive; I'm Moving; I'm Hungry; Living and Learning Teachers' Resource)

Series: *Science Alive*

Grade 1

Topic 1 E

Authorized Teaching

Author(s) Smythe, K.

Copyright 1995

Publisher Mimosa Publications

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 336041

Est. Price \$119.60

This teacher resource package includes activity cards and blackline masters in a clear and comprehensive format. It also contains a big book for use with large groups, small books and a hanging organizer. The resource enhances early learning experiences related to living organisms; e.g., movement, food.

GRADE 1 – TOPIC E



Living Things

Series: *Let's Explore Science*

Grade 1
Topic 1 E

Support

Author(s) Evans, D.; Williams, C.

Copyright/ISBN 1993 / 0590749455

Publisher Scholastic Canada Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301383

Est. Price \$11.35

What living things are, where they live, how they grow and how they can be studied are among the topics introduced in this colourful book. Questions to guide student inquiry are shown in conjunction with photographs of young students actively engaged in exploratory activity. This resource is appropriate for reading aloud and for showing students suitable activities.



Nelson Science: Teacher's Classroom Manual: Key Stage 1

Series: *Nelson Science*

Grades 1, 2, 3

Authorized Teaching

Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D

Author(s) Hopkins, S.; Hunter, A.

Copyright/ISBN 1990 / 0174231849

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293051

Est. Price \$76.40

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.



Primarily Plants: A Plant Study for K-3

Grade 1
Topic 1 E

Authorized Teaching

Author(s) Hoover, E.; Mercier, S.

Copyright/ISBN 1990 / 188143124X

Publisher Aims Education Foundation

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 301482

Est. Price \$39.05

This teacher resource book outlines 26 activities organized under four major headings: Plant Growth; Seeds, Spores and More; Plant Needs; Plant Parts. One-page activity outlines are supplemented with reproduction masters, some of which provide topical information, while others serve as activity outlines and record sheets for students.



Snails (includes: How Snails Live; How Snails Protect Themselves; The Life Cycle of a Snail)

Series: *Sunshine Science*

Grades 1, 2, 3

Support

Topics 1E, 2E, 3E

Author(s) Brough, C.

Title

Order No. Est. Price

How Snails Live (6 copies per package)	301599	\$37.35
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How Snails Protect Themselves (6 copies per package)	301581	\$37.35
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The Life Cycle of a Snail (6 copies per package)	301606	\$37.35
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Copyright 1995

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

The diversity of snails and some fascinating facts about them are described in this set of three booklets. The first and second booklets examine snail structure, life habits and adaptations of snails to their environments. The third booklet shows the life cycle. All booklets are illustrated with large colour photographs, and include a glossary and index.

Note: April 1998 LRDC prices are quoted.

GRADE 1 – TOPIC E



Where Animals Live

Grade 1
Topic 1 E

Support

Copyright 1988

Publisher National Geographic Society

Distributor National Geographic Society

Supplier Regional Resource and Urban Media Centres
(Non-Erasure)

BPN 298701

The variety of animals living in deserts, tropical rain forests, arctic environments and tropical mudflats are examined, with specific examples of animals and their habitats given.

GRADE 2 SERIES

EXPLORATIONS IN SCIENCE

Author(s): Campbell, S. et al.

Publisher/Distributor: Addison-Wesley Publishers

This series is an activity-based program that encourages students to get involved in science by exploring and experimenting with materials while working in a variety of groupings and settings. The program is organized in topics of study around five themes that provide a framework for science concepts and principles. The teacher's resource book has blackline masters; literature links; and extensive strategies for planning, implementing and exploring.

TEACHER RESOURCES

SUPPLIER: LRDC



Explorations in Science: Level Two: Assessment Authorized Teaching Handbook

Copyright/ISBN 1993 / 0201606844

Order No.	Est. Price
291708	\$27.10



Explorations in Science: Level Two: Teacher's Resource Book (Modular Ed.) (Includes Alberta Implementation Guide) Authorized Teaching

Copyright/ISBN 1995 / 0201881810

291716	\$212.60
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INNOVATIONS IN SCIENCE

Author(s): Clarke, C.; Cooke, S.

Publisher/Distributor: Holt, Rinehart & Winston/Harcourt Brace & Co.

This series supports student-centred, activity-based science. It is organized around themes and topics that provide science-technology-society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

TEACHER RESOURCES

SUPPLIER: LRDC



Innovations in Science: Level 2: Teacher Resource Package

Copyright/ISBN 1990 / 0774710897

Authorized Teaching

Order No.	Est. Price
293259	\$178.25

LET'S DO SCIENCE

Publisher/Distributor: Science Alberta Foundation

This six-volume teacher guide provides a ready reference for planning and teaching the Alberta elementary science program. It provides a general introduction to the program and topic by topic outlines that include background information, suggested activities for teaching and learning, and specific references to student and teacher resources for each activity.

TEACHER RESOURCES

SUPPLIER: LRDC



Let's Do Science: Level 2: A Time-Saving, Teacher-Friendly Guide to Alberta's Elementary Science Curriculum

Copyright/ISBN 1995 / 1896618022

Authorized Teaching

Order No.	Est. Price
295601	\$29.90



Let's Do Science: Levels 1 - 6 (Complete Set)

Authorized Teaching

295586	\$169.55
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Note: April 1998 LRDC prices are quoted.

GRADE 2 – TOPIC A



Art and Science Connection, The: Hands-On Activities for Intermediate Students

Grades 2, 4, 5, 6 *Authorized Teaching*
Topics 2A, 4A, 4D, 5C, 6D

Author(s) Tolley, K.

Copyright/ISBN 1994 / 0201455455

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292285

Est. Price \$35.45

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.



Getting the Water We Need

Series: *Sunshine Science*

Grade 2

Topic 2 A

Support

Author(s) Biddulph, F.; Biddulph, J.

Copyright/ISBN 1995 / 9622918832

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 307266

Est. Price \$40.55

This booklet shows sources of drinking water and illustrates the processes used to transport water to homes and that ensure the water is safe. A glossary and index are included.



Liquid Explorations

Series: *Great Explorations in Math and Science (GEMS)*

Grade 2

Authorized Teaching

Topic 2 A

Author(s) Agler, L.

Copyright/ISBN 1986 / 0912511516

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 300963

Est. Price \$14.20

Properties of liquids and the interaction of liquids with other materials are explored in a sequence of five learning activities. Each activity is extensively described, including background information, materials, questioning strategies and suggestions for concept development. Activities are illustrated with line drawings of materials and photographs of students at work. Some reproduction masters are included.



Liquid Magic

Series: *Science Club*

Grade 2

Authorized Teaching

Topic 2 A

Author(s) Watson, P.

Copyright/ISBN 1990 / 0744514584

Publisher Walker Books

Distributor University of Toronto Press

Supplier LRDC

Order No. 292384

Est. Price \$7.30

Activities to explore the characteristics of liquids are presented in a colourful visual format. They are clearly described and illustrated on a step by step basis, including those of moving liquids, liquid buoyancy, surface tension, liquids and crystals, and liquid to gas. This book may be a useful source for classroom activities and learning centres.

GRADE 2 – TOPIC A



Puddle Questions for Science: Performance Assessment Investigations: Grade 2

Series: *Puddle Questions*

Grade 2 **Authorized Teaching**
Topics 2A, 2B

Author(s) McDonald, H.; Westley, J.

Copyright/ISBN 1995 / 1561078425

Publisher Creative Publications

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 324939

Est. Price \$40.05

Approaches to performance-based assessment are described in this teacher resource and applied to eight different topics. Three of the topics: Penny Boats, Soak it Up and Puddle Observations are directly related to the Alberta Grade 2 science program.



Solid, Liquid, Gas (2nd Ed.)

Series: *Matter and Energy for Beginners*

Grade 2 **Support**
Topic 2A

Copyright 1990

Publisher Bill Walker Productions

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Order No. 312702

Est. Price \$116.75

This 12-minute video provides a close look at changes from solid to liquid to gas by examining what happens as an ice cube is heated. Examples of solids, liquids and gases are shown. The video follows an investigative format in which Investigator Alligator looks for explanations in the "Case of the Disappearing Ice Cube."



States of Matter: Teacher's Guide

Series: *Delta Science Modules*

Grade 2 **Authorized Teaching**
Topic 2A

Author(s) Worosz, M.

Copyright/ISBN 1988 / 0875047432

Publisher Delta Education

Distributor Delta Education

Supplier LRDC

Order No. 299968

Est. Price \$18.80

This 21-page teacher guide outlines a series of seven activities to investigate water in its different forms. Each activity outline includes sections on the materials required, background information and teaching suggestions. A glossary and evaluation chart are also provided.

Note: April 1998 LRDC prices are quoted.



Water and Ice

Series: *Windows on Beginning Science: Active Learning for Young Children*

Grade 2 **Authorized Teaching**
Topics 2A, 2B

Author(s) Westley, J.

Copyright/ISBN 1988 / 0884887081

Publisher Creative Publications

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 301408

Est. Price \$23.00

This 59-page coilbound book outlines 28 investigative activities with water and ice. Each activity includes a materials list and suggestions for introducing, developing and extending the activity.



Water: Teacher's Guide

Series: *Full Option Science System (FOSS)*

Grade 2 **Authorized Teaching**
Topic 2A

Copyright/ISBN 1992 / 0782604409

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Britannica Publications

Supplier LRDC

Order No. 300004

Est. Price \$190.20

Organized in a 3-ring binder format, this teacher guide provides an overview, activity outlines, assessment materials and duplication masters for a unit on the properties of water. The overview section provides general background on the content of the unit and an introduction to the unit organization and instructional approach. This is followed by four activity folios, each including instructional objectives; a brief overview and background notes; materials list; methods for preparing and developing the activity; and an analysis of vocabulary, language and mathematics development within the activity. The four folios are: The Water Works; Hot Water, Cold Water; Water Vapour; and Testing the Water. Hands-on materials to support this unit are available from the publisher or may be obtained separately.

BEST COPY AVAILABLE

GRADE 2 – TOPIC B



Design and Technology 5-12

Series: *Science Around Me*

Grades 1, 2, 3, 4

Authorized Teaching

Topics 1C, 2B, 3B, 4C

Author(s) Williams, P.; Jinks, D.

Copyright/ISBN 1985 / 1850000492

Publisher The Falmer Press

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292433

Est. Price \$34.05

The methods and materials for teaching design technology to elementary students are described and illustrated, using examples of student drawings and photographs of student work. Set in the context of the National Curriculum of Great Britain, the purpose and meaning of design technology are explained. The introductory section is followed by examples of student construction, including six case studies on such topics as windmills, the Roman chariot and car design.



Floating and Sinking

Series: *Starting Science*

Grade 2

Topic 2B

Support

Author(s) Davies, K.; Oldfield, W.

Copyright/ISBN 1991 / 0750202823

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293043

Est. Price \$9.70

This 32-page softcover book shows examples of a variety of floating and sinking objects. Investigative activities are provided through illustrations and the text. Visual links are made between the classroom investigations and real-world applications.



Floating and Sinking (includes: Is It Floating?; Floating and Sinking; What Will Float?)

Series: *Sunshine Science*

Grade 2

Topic 2B

Support

Author(s) Biddulph, F.; Biddulph, J.

Title	Order No.	Est. Price
Is It Floating? (6 copies per package)	301515	\$40.55
Floating and Sinking (6 copies per package)	301507	\$40.55
What Will Float? (6 copies per package)	301705	\$40.55

Copyright 1992

Publisher Prentice Hall

Distributor Prentice Hall Ginn Canada

Supplier LRDC

This series of 16-page, easy-reading booklets provides three different approaches to the study of floating and sinking objects. The first booklet provides opportunities for students to interpret other examples, the second booklet provides examples of floating and sinking objects, and the third booklet suggests a sequence of activities that students can try themselves.



Hands-On Technology

Grades 1, 2, 3, 4

Authorized Teaching

Topics 1C, 2B, 3B, 4C

Author(s) Idle, I.K.

Copyright/ISBN 1991 / 0748712968

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292714

Est. Price \$33.55

This teacher resource provides a general introduction to the methods and materials for teaching technology topics to young children. Set in the context of the National Curriculum of Great Britain, this resource shows the kinds of learnings that are appropriate for the younger child and provides examples of activities and actual student work.

GRADE 2 – TOPIC B



Puddle Questions for Science: Performance Assessment Investigations: Grade 2

Series: *Puddle Questions*

Grade 2 *Authorized Teaching*
Topics 2A, 2B

Author(s) McDonald, H.; Westley, J.

Copyright/ISBN 1995 / 1561078425

Publisher Creative Publications

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 324939

Est. Price \$40.05

Approaches to performance-based assessment are described in this teacher resource and applied to eight different topics. Three of the topics: Penny Boats, Soak it Up and Puddle Observations are directly related to the Alberta Grade 2 science program.



Sink or Float: Teacher's Guide

Series: *Delta Science Modules*

Grade 2 *Authorized Teaching*
Topic 2B

Copyright/ISBN 1988 / 0875047424

Publisher Delta Education

Distributor Delta Education

Supplier LRDC

Order No. 301466

Est. Price \$18.80

This 24-page teacher guide outlines a series of seven activities to investigate sinking and floating objects. Each activity outline identifies materials required, and provides background information and teaching suggestions. Three worksheets, an evaluation chart and a glossary are also included.



Teaching Techniques for Elementary Technology

Series: *Design & Make*

Grades 2, 3, 4, 5, 6 *Authorized Teaching*
Topics 2B, 3B, 4C, 5B, 6B

Copyright/ISBN 1994 / 1884461050

Publisher NES Arnold Educational

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304139

Est. Price \$27.55

This teacher resource book outlines construction techniques and student projects, using wood, cardboard, elastic bands and a variety of recycled materials. Activities include various fixed and moving structures, such as boats, airplanes, vehicles and devices that use electric motors. Construction suggestions and simple line drawings are provided for each activity.



Toy Designer: Technology and Energy (Canadian Ed.) (Big Book, Small Book)

Series: *Realization*

Grades 2, 4 *Support*
Topics 2B, 4C

Author(s) Drew, D.

Title	Order No.	Est. Price
Toy Designer: Technology and Energy (Canadian Ed.) (Big Book)	300509	\$50.15

Toy Designer: Technology and Energy (Canadian Ed.) (Small Book) (4 copies per package)	300492	\$37.35
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Copyright/ISBN 1993 / 0731206592 (Big Book)
0731206630 (Package of 4 Small Books)

Publisher Prentice Hall

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

This paperback outlines five construction projects, three involving different forms of watercrafts. Colour illustrations are extensive and provide clear, step by step guidance for successfully completing each project.

GRADE 2 – TOPIC B



Water

Series: *Starting Technology*

Grade 2
Topic 2B

Support

Author(s) Williams, J.

Copyright/ISBN 1991 / 075020270X

Publisher Wayland Publishers Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301119

Est. Price \$6.95

Students are introduced to a variety of different boats and other floating objects through illustrations, text and activities. Illustrations of student-constructed models are shown opposite photographs of everyday applications.



Water and Ice

Series: *Windows on Beginning Science: Active Learning for Young Children*

Grade 2
Topics 2A, 2B

Authorized Teaching

Author(s) Westley, J.

Copyright/ISBN 1988 / 0884887081

Publisher Creative Publications

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 301408

Est. Price \$23.00

This 59-page coilbound book outlines 28 investigative activities with water and ice. Each activity includes a materials list and suggestions for introducing, developing and extending the activity.

GRADE 2 – TOPIC C



Magnets

Series: *Science Spirals*

Grade 2
Topic 2C

Support

Author(s) Fitzpatrick, J.

Copyright/ISBN 1984 / 0237602083

Publisher Evans Bros.

Distributor Fitzhenry & Whiteside Ltd.

Supplier Out-of-Print

Twelve student investigations are described and illustrated in this 30-page hardcover book.



Magnets: Teacher's Guide

Series: *Delta Science Modules*

Grade 2
Topic 2C

Authorized Teaching

Author(s) Hendry, J.

Copyright/ISBN 1994 / 0875041507

Publisher Delta Education

Distributor Delta Education

Supplier LRDC

Order No. 293811

Est. Price \$52.65

This resource outlines 12 activities for the investigation of magnets and magnetism. Each activity has objectives, preparation notes, background information and teaching suggestions, including ideas that can be developed through the suggested questions. Sixteen pages of reproduction masters are included.



Mostly Magnets

Grade 2
Topic 2C

Authorized Teaching

Author(s) Hoover, E. et al.

Copyright/ISBN 1991 / 1881431290

Publisher Aims Education Foundation

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 292392

Est. Price \$34.00

This teacher resource includes 27 activity outlines and related reproduction masters. Each activity outline has a key question, background information, instruction, suggestions for materials management, discussion questions and possible extensions.

GRADE 2 – TOPIC D



**Keeping Cool and Warm (Includes:
Getting Cold! Getting Hot!; Warming
Up! Cooling Off!; Keeping Warm!
Keeping Cool!)**

Series: *Sunshine Science*

Grade 2

Support

Topic 2 D

Author(s) Cutting, B.; Cutting, J.

Title

Order No. Est. Price

Getting Cold! Getting Hot! (6 copies per package)	301523	\$40.55
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Warming Up! Cooling Off! (6 copies per package)	301531	\$40.55
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Keeping Warm! Keeping Cool! (6 copies per package)	301549	\$40.55
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Copyright 1993

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Canada

Supplier LRDC

This three-part, illustrated series of 24-page booklets shows how humans and other animals regulate their body temperature.



**Nelson Science: Teacher's Classroom
Manual: Key Stage 1**

Series: *Nelson Science*

Grades 1, 2, 3

Authorized Teaching

Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D

Author(s) Hopkins, S.; Hunter, A.

Copyright/ISBN 1990 / 0174231849

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293051

Est. Price \$76.40

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.

GRADE 2 – TOPIC E



Amazing Insects

Series: *Amazing Worlds*

Grade 2
Topic 2 E

Support

Author(s) Mound, L.

Copyright/ISBN 1993 / 0773726721

Publisher Stoddart Publishing

Distributor Irwin Publishing

Supplier LRDC

Order No. 301838

Est. Price \$9.70

Extensive illustrations and captions are used to provide interesting detail about the structure and life habits of insects. Each of the 11, double-page spreads shows a different aspect of their natural history and adaptations to the environment.



Amazing Spiders

Series: *Amazing Worlds*

Grade 2
Topic 2 E

Support

Author(s) Parsons, A.

Copyright/ISBN 1990 / 0773723943

Publisher Stoddart Publishing

Distributor Irwin Publishing

Supplier Out-of-Print

Extensive illustrations and captions are used to provide interesting detail about the structure and life habits of spiders. Each of the 11, double-page spreads shows a different aspect of their natural history and adaptations to the environment.



Animals in the Classroom: Selection, Care, and Observations

Grades 1, 2, 3
Topics 1E, 2E, 3E

Authorized Teaching

Author(s) Kramer, D.C.

Copyright/ISBN 1989 / 020120679X

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292293

Est. Price \$39.80

This resource book provides basic information on the characteristics and care of a variety of mammals, birds, reptiles, amphibians, fish, insects and other small animals suitable for study in the classroom. An introductory section has general background on things to consider before bringing animals into a school. Each section includes notes on handling, housing, diet and reproduction. A brief list of observations, activities and questions is also included in each section.



Ants (Includes: Ants, Ants, Ants; Ants; How Ants Live)

Series: *Sunshine Science*

Grade 2
Topic 2 E

Support

Author(s) Sheridan, J.; Cutting, B.; Cutting, J.

Title	Order No.	Est. Price
Ants, Ants, Ants (6 copies per package)	301557	\$40.55
Ants (6 copies per package)	301565	\$40.55

How Ants Live (6 copies per package) (OUT-OF-PRINT)

Copyright 1992

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

Large illustrations and brief text are used to show the structure and natural history of ants in this series of three 16-page booklets.

GRADE 2 – TOPIC E



Behavior of Mealworms: Teacher's Guide

Series: Delta Science Modules

Grade 2 *Authorized Teaching*
Topic 2 E

Copyright/ISBN 1988 / 0875047157

Publisher Delta Education

Distributor Delta Education

Supplier LRDC

Order No. 299950

Est. Price \$18.80

Eight activities for observational studies of mealworms are outlined in this resource. Activities involve observing mealworm behaviour, tracking the movement of mealworms, and studying environmental preferences and responses to stimuli. Each activity includes a statement of objectives, materials list, background information, teaching suggestions and ideas for reinforcing concepts. The guide also includes brief sections on evaluation, a glossary and several duplication masters for recording data.



Bottle Biology: An Idea Book for Exploring the World through Plastic Bottles and Other Recyclable Materials

Grades 2, 3, 4 *Authorized Teaching*
Topics 2E, 3A, 4A, 4E

Author(s) Ingram, M.

Copyright/ISBN 1993 / 080438601X

Publisher Kendall/Hunt Publishing

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

Order No. 304816

Est. Price \$30.95

This coilbound idea book shows a variety of ways to use plastic bottles and other recyclable materials for studying soil, decomposition and a variety of small creatures. Background information, activity suggestions, as well as specific directions for the preparation and use of materials are included.



BugPlay: Activities with Insects for Young Children

Grade 2 *Authorized Teaching*
Topic 2 E

Author(s) Hapai, M.N.; Burton, L.H.

Copyright/ISBN 1990 / 0201215411

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 315508

Est. Price \$42.55

This teacher resource presents information about 17 orders of insects by way of 26 simple activities, each including a photograph of children engaged in the activity, summary procedures for developing the materials list, outline drawings of the insect, information about the insect, a song and a poem.



Butterflies and Moths

Series: Eyewitness Explorers

Grade 2 *Support*
Topic 2 E

Author(s) Feltwell, J.

Copyright/ISBN 1993 / 0773726632

Publisher Stoddart Publishing

Distributor Irwin Publishing

Supplier LRDC

Order No. 301812

Est. Price \$10.40

Extensive detailed illustrations and captions provide information about a variety of butterfly and moth species. Each double-page spread shows a different aspect of their structure, natural history and adaptations to the environment.

GRADE 2 – TOPIC E



Critters

Grades 2, 3
Topics 2E, 3E

Authorized Teaching

Author(s) Murphy, A.M. et al.

Copyright/ISBN 1992 / 1881431231

Publisher Aims Education Foundation

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 292409

Est. Price \$30.05

This teacher resource provides background information, activity outlines and blackline masters to support the study of a variety of small creatures. Animal groups studied include: earthworms, snails, isopods, spiders and insects (with a section on mealworms). Sections on food chains, adaptation and camouflage are also included.



Earthworms (includes: How Earthworms Live; Earthworms and Their Food; How Earthworms Grow)

Series: *Sunshine Science*

Grades 1, 2, 3
Topics 1E, 2E, 3E

Support

Author(s) Plater, I.

Title	Order No.	Est. Price
How Earthworms Live (6 copies per package)	301614	\$37.35
Earthworms and Their Food (6 copies per package)	301622	\$37.35
How Earthworms Grow (6 copies per package)	301630	\$37.35

Copyright 1995

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

The structure, life habits and relationships of earthworms to their environment is described in this set of three booklets. The first booklet shows how earthworms are adapted to their environment, the second shows their structure and their role within the environment, and the third shows their reproduction. All booklets have a glossary and index and are illustrated with large colour photographs.



Files (includes: What Is a Fly?; How Flies Live; Eggs, Larvae and Flies)

Series: *Sunshine Science*

Grade 2
Topic 2 E

Support

Author(s) Lenihan, K.; Brough, C.

Title	Order No.	Est. Price
What Is a Fly? (6 copies per package)	301911	\$40.55
How Flies Live (6 copies per package)	301929	\$40.55
Eggs, Larvae and Flies (6 copies per package)	301937	\$40.55

Copyright 1993

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

In this series of three, 24-page booklets, the structure and life habits of flies are described in brief text, detailed photographs and line drawings.



Home Wanted

Series: *Science Start Here*

Grade 2
Topic 2 E

Support

Copyright 1988

Publisher Journal Films

Distributor T.H.A. Media Distribution Ltd.

Supplier LRDC

Order No. 310615

Est. Price \$99.25

Animal and human homes are shown in this 15-minute video. Through observation and investigation, students learn about the kinds of environments different animals select and about the materials used in constructing homes.

BEST COPY AVAILABLE

Note: April 1998 LRDC prices are quoted.

GRADE 2 – TOPIC E



Insect

Series: Eyewitness Books

Grade 2

Authorized Teaching

Topic 2 E

Author(s) Mound, L.

Copyright/ISBN 1990 / 0773723447

Publisher Stoddart Publishing

Distributor Irwin Publishing

Supplier LRDC

Order No. 298184

Est. Price \$15.65

Extensive, large, captioned illustrations are used to provide interesting details about the structure and life habits of insects. A wide variety of insect forms are shown and their specific adaptations are described.



Insects

Series: Eyewitness Explorers

Grade 2

Support

Topic 2 E

Author(s) Parker, S.

Copyright/ISBN 1992 / 0773725806

Publisher Stoddart Publishing

Distributor Irwin Publishing

Supplier LRDC

Order No. 298150

Est. Price \$10.40

Extensive, captioned illustrations provide interesting details about the structure and life habits of insects. Each of the 26, double-page spreads shows a different aspect of their natural history and adaptations to the environment.



Insects

Series: Wonder Why

Grade 2

Support

Topic 2 E

Copyright 1990

Publisher CTV Television Network

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Order No. 311605

Est. Price \$112.30

The appearance and life habits of a wide range of insects and other small flying and crawling creatures are illustrated in this 24-minute video. A trip to the insectarium in Montreal is used to introduce some of the insects found locally and in different environments around the world. Methods for collecting insects and important features to study are shown.



Insects (1st Ed.)

Series: Our Living World

Grade 2

Authorized Teaching

Topic 2 E

Author(s) Tesar, J.

Copyright/ISBN 1993 / 1567110371

Publisher Nelson Canada

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 301424

Est. Price \$23.00

The structure and natural history of insects are described in this 61-page resource. Interesting details are provided through sidebars and illustrations. A classification chart describing the many different insect forms is included.



Ladybird, The

Series: First Discovery

Grade 2

Support

Topic 2 E

Author(s) de Bourgoing, P.; Jeunesse, G.

Copyright/ISBN 1990 / 1851030891

Publisher Moonlight Publishing Ltd.

Distributor University of Toronto Press

Supplier LRDC

Order No. 310318

Est. Price \$11.60

The structure, life habits and life cycle of ladybugs are illustrated and described. Transparent overlays show details of the appearance and life cycle of ladybugs.

Note: April 1998 LRDC prices are quoted.

GRADE 2 – TOPIC E



Snails (includes: How Snails Live; How Snails Protect Themselves; The Life Cycle of a Snail)

Series: *Sunshine Science*

Grades 1, 2, 3

Topics 1E, 2E, 3E

Support

Author(s) Brough, C.

Title	Order No.	Est. Price
How Snails Live (6 copies per package)	301599	\$37.35
How Snails Protect Themselves (6 copies per package)	301581	\$37.35
The Life Cycle of a Snail (6 copies per package)	301606	\$37.35

Copyright 1995

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

The diversity of snails and some fascinating facts about them are described in this set of three booklets. The first and second booklets examine snail structure, life habits and adaptations of snails to their environments. The third booklet shows the life cycle. All booklets are illustrated with large colour photographs, and include a glossary and index.



Spiders (includes: How Spiders Live; Spiders and Their Webs; Spiders Are Special Animals)

Series: *Sunshine Science*

Grade 2

Topic 2 E

Support

Author(s) Biddulph, F.; Biddulph, J.

Title	Order No.	Est. Price
How Spiders Live (6 copies per package)	301888	\$40.55
Spiders and Their Webs (6 copies per package)	301896	\$40.55
Spiders Are Special Animals (6 copies per package)	301903	\$40.55

Copyright 1992

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Large illustrations and brief text are used to show the structure and natural history of spiders. A variety of different spiders and their methods of building webs and getting food are shown in this three-part series of 16-page booklets.



Young Naturalist 1: Discovering Spiders, Snails and Other Creepy Crawlies

Grade 2

Topic 2 E

Authorized Teaching

Author(s) Brillon, G.

Copyright/ISBN 1992 / 2920438530

Publisher Quintin Publishers

Distributor WEIGL Educational Publishers

Supplier LRDC

Order No. 304832

Est. Price \$11.75

This resource provides suggestions for the study of insects and other small creatures in their natural settings and in indoor environments. Specific suggestions are provided for their collection and care, and for setting up investigative activities. Materials lists and illustrations are included.



Young Naturalist 2: Discovering Insects • Ants, Flies, Crickets ...

Grade 2

Topic 2 E

Authorized Teaching

Author(s) Brillon, G.

Copyright/ISBN 1994 / 2894350104

Publisher Quintin Publishers

Distributor WEIGL Educational Publishers

Supplier LRDC

Order No. 304840

Est. Price \$11.75

This resource provides suggestions for the study of insects and other small creatures in their natural settings and in indoor environments. Specific suggestions are provided for their collection and care, and for setting up investigative activities. Materials lists and illustrations are included.

Note: April 1998 LRDC prices are quoted.

GRADE 3 SERIES

EXPLORATIONS IN SCIENCE

Author(s): Campbell, S. et al.
Publisher/Distributor: Addison-Wesley Publishers

This series is an activity-based program that encourages students to get involved in science by exploring and experimenting with materials while working in a variety of groupings and settings. The program is organized in topics of study around five themes that provide a framework for science concepts and principles. The teacher's resource book has blackline masters; literature links; and extensive strategies for planning, implementing and exploring.

TEACHER RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
	Explorations in Science: Level Three: Assessment Handbook Copyright/ISBN 1993 / 0201606852	<i>Authorized Teaching</i> 291724	\$27.10
	Explorations in Science: Level Three: Teacher's Resource Book (Modular Ed.) (Includes Alberta Implementation Guide) Copyright/ISBN 1995 / 0201881837	<i>Authorized Teaching</i> 291732	\$212.60

STUDENT RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
	Explore!: A Book of Science: Level Four Student Resource Book Copyright/ISBN 1992 / 0201555093	<i>Support</i> 293316	\$21.10

INNOVATIONS IN SCIENCE

Author(s): Peturson, R.; McAllister, N.
Publisher/Distributor: Holt, Rinehart & Winston/Harcourt Brace & Co.

This series supports student-centred, activity-based science. It is organized around themes and topics that provide science-technology-society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

TEACHER RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
	Innovations in Science: Level 3: Teacher's Resource Package (Alberta Edition) Copyright/ISBN 1996 / 0774701846	<i>Authorized Teaching</i> 293267	\$214.35

LET'S DO SCIENCE

Publisher/Distributor: Science Alberta Foundation

This six-volume teacher guide provides a ready reference for planning and teaching the Alberta elementary science program. It provides a general introduction to the program and topic by topic outlines that include background information, suggested activities for teaching and learning, and specific references to student and teacher resources for each activity.

TEACHER RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
	Let's Do Science: Level 3: A Time-Saving, Teacher-Friendly Guide to Alberta's Elementary Science Curriculum Copyright/ISBN 1995 / 1896618030	<i>Authorized Teaching</i> 295619	\$29.90
	Let's Do Science: Levels 1 - 6 (Complete Set)	<i>Authorized Teaching</i> 295586	\$169.55

Note: April 1998 LRDC prices are quoted.

GRADE 3 – TOPIC A



Bottle Biology: An Idea Book for Exploring the World through Plastic Bottles and Other Recyclable Materials

Grades 2, 3, 4
Topics 2E, 3A, 4A, 4E

Authorized Teaching

Author(s) Ingram, M.

Copyright/ISBN 1993 / 080438601X

Publisher Kendall/Hunt Publishing

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

Order No. 304816

Est. Price \$30.95

This coilbound idea book shows a variety of ways to use plastic bottles and other recyclable materials for studying soil, decomposition and a variety of small creatures. Background information, activity suggestions, as well as specific directions for the preparation and use of materials are included.



Earth Materials: Teacher's Guide

Series: Full Option Science System (FOSS)

Grade 3
Topic 3A

Authorized Teaching

Copyright/ISBN 1992 / 0782600166

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Britannica Publications

Supplier LRDC

Order No. 299984

Est. Price \$190.20

Organized in a 3-ring binder format, this teacher guide provides an overview, activity outlines, assessment materials and duplication masters for a unit on rocks and minerals. The overview section provides general background on the content of the unit and an introduction to the unit organization and instructional approach. This is followed by four activity folios, each including instructional objectives; a brief overview and background notes; materials list; methods for preparing and developing the activity; and an analysis of vocabulary, language and mathematics development within the activity. The four folios are: Mock Rocks, Scratch Test, Calcite Quest and Take It for Granite. Hands-on materials to support this unit are available from the publisher or may be obtained separately.



Earth Science (includes: What Is Rock?; What Happens to Rock?; What Is Soil?)

Series: Sunshine Science

Grade 3
Topic 3A

Support

Author(s) Biddulph, F.; Biddulph, J.

Title	Order No.	Est. Price
What is Rock? (6 copies per package)	306523	\$37.35
What Happens to Rock? (6 copies per package)	306515	\$37.35
What Is Soil? (6 copies per package)	306507	\$37.35

Copyright 1995

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Canada

Supplier LRDC

This series of three booklets shows the diversity of materials that are found at and just below Earth's surface. The first booklet shows different forms of rock, the second shows that rocks undergo changes and movement, and the third shows that soils contain a variety of materials and support life. All booklets have a glossary and index and are illustrated with large colour photographs.



Nelson Science: Teacher's Classroom Manual: Key Stage 1

Series: Nelson Science

Grades 1, 2, 3
Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D

Authorized Teaching

Author(s) Hopkins, S.; Hunter, A.

Copyright/ISBN 1990 / 0174231849

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293051

Est. Price \$76.40

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.

GRADE 3 – TOPIC A



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: *Nelson Science*

Grades 3, 4, 5, 6 *Authorized Teaching Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C*

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.



Rocks and Minerals: Teacher's Guide

Series: *Science and Technology for Children*

Grade 3 *Authorized Teaching Topic 3A*

Copyright 1994

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 300046

Est. Price \$44.65

In this topic, students observe rocks and minerals, noting similarities and differences, then develop a classification system based on the observed characteristics. Using sample materials, students test rocks for such properties as colour, luster, hardness, streak and weight. Reading selections in the student activity book relate the rocks to processes by which the rocks were formed. The teacher's guide includes an overview, objectives, background information, materials list, and suggestions for extension and evaluation.



Rocks and Minerals: Student Activity Book

Series: *Science and Technology for Children*

Grade 3 *Support Topic 3A*

Copyright 1994

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 300054

Est. Price \$7.10

In this topic, students observe rocks and minerals, noting similarities and differences, then develop a classification system based on the observed characteristics. Using sample materials, students test rocks for such properties as colour, luster, hardness, streak and weight. Reading selections relate the rocks to processes by which the rocks were formed.

BEST COPY AVAILABLE

GRADE 3 – TOPIC B



Bridges

Series: Tracks

Grade 3
Topic 3B

Support

Author(s) Petty, K.; Cash, T.

Copyright/ISBN 1990 / 0713633158

Publisher A&C Black

Distributor Fitzhenry & Whiteside Ltd.

Supplier Out-of-Print

This resource provides an introduction to bridge design, bridge construction and the testing of bridges. Colour photographs are used throughout the book to illustrate actual bridges and student investigations of their design. A section on interesting bridge facts and an index are included.



Building

Series: Make It Work!

Grade 3
Topics 3B, 3C

Support

Author(s) Glover, D.

Copyright/ISBN 1995 / 059024616X

Publisher Scholastic-TAB Publications Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 321919

Est. Price \$7.75

Activities for building many kinds of useful structures are clearly outlined. Colour photographs and step by step instructions are combined with straightforward explanations of the design principles used. Structures shown include block towers, bridges, tents, dams, cable cars, cranes, roofed structures and boxes. The introduction to different methods of joining materials is a particularly helpful feature.



Cat on the Chimney, The: Solving Problems with Technology (Canadian Ed.) (Big Book, Small Book)

Series: Realization

Grades 3, 4
Topics 3B, 4C

Support

Author(s) Drew, D.

Title	Order No.	Est. Price
Cat on the Chimney, The: Solving Problems with Technology (Canadian Ed.) (Big Book)	300476	\$50.15
Cat on the Chimney, The: Solving Problems with Technology (Canadian Ed.) (Package of 4 Small Books)	300468	\$37.35

Copyright 1992

Publisher Prentice Hall

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Using an identified set of materials, a series of challenging problems are posed for students to solve. Each problem is described in two-page spreads, and includes finding a way to get a cat down from a chimney, retrieving a key from a drain and retrieving a helium-filled balloon from a ceiling. Activities are open-ended, leading to multiple solutions. Students can describe their solutions or demonstrate them with models; they need not do the real thing.



Challenging Artstraws: 14 Challenges for Integrating Science, Mathematics & Technology

Series: Design & Make

Grade 3
Topics 3B, 3C

Authorized Teaching

Copyright/ISBN 1994 / 1884461077

Publisher NES Arnold Educational

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304121

Est. Price \$20.15

This teacher resource outlines a set of activities for building structures, using straws as the basic framework. Devices to be constructed include bridges, towers, supports, lifts, shelters, marble tracks and barriers. A general description and an illustration are provided for each activity.

GRADE 3 – TOPIC B



Design & Make Activities: Grade 3: Building Structures

Grade 3
Topics 3B, 3C

Authorized Teaching

Copyright/ISBN 1994 / 1884461077
Publisher Technology Teaching Systems
Distributor Technology Teaching Systems
Supplier LRDC

Order No. 304155 **Est. Price** \$25.15

This teacher guide provides background information and learning activities on building structures. The tools and techniques of building structures are described in the two introductory sections. The later sections outline specific activities in a clear outline format illustrated with line drawings.



Design and Technology

Series: *Bright Ideas*

Grades 1, 3
Topics 1C, 3B

Authorized Teaching

Author(s) Newton, D.; Newton, L.
Copyright/ISBN 1990 / 0590708058
Publisher Scholastic Publications Ltd.
Distributor Scholastic-TAB Publications Ltd.
Supplier LRDC

Order No. 300913 **Est. Price** \$13.80

This teacher resource book shows over 60 different construction projects, grouped under six theme areas. Each activity indicates a suggested age range, group size, materials and specific task; provides an illustration; and makes suggestions for initiating the activity and follow-up. Activities include constructing model houses, garden tools, vehicles, boats and bridges. An introduction to design and technology studies and a section on evaluation are included.



Design and Technology 5-12

Series: *Science Around Me*

Grades 1, 2, 3, 4 *Authorized Teaching*
Topics 1C, 2B, 3B, 4C

Author(s) Williams, P.; Jinks, D.

Copyright/ISBN 1985 / 1850000492
Publisher The Falmer Press
Distributor Addison-Wesley Longman Ltd.
Supplier LRDC

Order No. 292433 **Est. Price** \$34.05

The methods and materials for teaching design technology to elementary students are described and illustrated, using examples of student drawings and photographs of student work. Set in the context of the National Curriculum of Great Britain, the purpose and meaning of design technology are explained. The introductory section is followed by examples of student construction, including six case studies on such topics as windmills, the Roman chariot and car design.



Design & Technology System

Series: *Active Learning*

Grades 3, 4 *Authorized Teaching*
Topics 3B, 4C

Author(s) Moore, N.

Copyright 1994
Publisher Exclusive Educational Products
Distributor Exclusive Educational Products
Supplier LRDC

Order No. 300020 **Est. Price** \$42.40

This resource book of activity outlines and blackline masters is designed for use with a set of hands-on materials—as supplied by the publisher, or equivalent materials available from other sources. Organized in a 3-ring binder format, it has sections on the safe use of tools and equipment, sources of motion, setting objectives, and descriptions of the design process. The largest section has 25 challenge activities, consisting of reproduction masters and an accompanying page of teacher notes. Design tasks include both fixed structures and a variety of devices with moving parts. Supplementary sections include a set of theme ideas, an illustrated glossary and additional masters for use by students in planning and recording their activities.

GRADE 3 – TOPIC B



Design and Technology through Problem Solving: A Resource Book for Teachers in Junior and Middle Schools

Grades 3, 4, 5
Topics 3B, 4C, 5B

Authorized Teaching

Author(s) Johnsey, R.

Copyright/ISBN 1990 / 075010032X

Publisher Simon & Schuster

Distributor Bacon and Hughes

Supplier LRDC

Order No. 293829

Est. Price \$31.35

This resource provides an introduction to teaching and learning about technology and problem solving, and provides practical suggestions for development of student projects. Project ideas are grouped under: balancing models, obstacle games, paddle boats, wheels and levers, propeller-driven vehicles, electric switches, folding chairs, and children's problems. Suggestions on tool selection and use are also provided.



Design Technology: Children's Engineering

Series: *Science Around Me*

Grades 1, 3, 4, 5
Topics 1C, 3B, 4C, 5B

Authorized Teaching

Author(s) Dunn, S.; Larson, R.

Copyright/ISBN 1990 / 1850005907

Publisher The Falmer Press

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292425

Est. Price \$36.75

The philosophy and methods for learning about technology are described in a clear, straightforward manner and are illustrated with examples of student work. Samples include student writing and drawings, photographs of student work, and vignettes of classroom work. Learning and instructional strategies are described.



Designing and Making: Towards Technology: Age 7-11

Series: *Brain Waves*

Grades 3, 4, 5
Topics 3B, 4C, 5B

Authorized Teaching

Author(s) Baker, E. et al.

Copyright/ISBN 1992 / 1852760397

Publisher Folens Publishers

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292706

Est. Price \$14.50

This coilbound teacher resource provides reproduction sheets and teaching suggestions for 24 design and make activities. Each activity sets a challenge task for students and includes questions and things to think about to guide students in developing and designing. A set of skill cards show examples of materials and techniques used in related projects. Activities include a Ferris wheel, systems for moving materials, a swing, a moving message and different kinds of toys.



Early Start to Technology from Science, An

Grades 3, 4
Topics 3B, 3C, 4C

Authorized Teaching

Author(s) Richards, R.

Copyright/ISBN 1990 / 0750100338

Publisher Simon & Schuster Young Books

Distributor Bacon and Hughes

Supplier LRDC

Order No. 300525

Est. Price \$33.55

This idea book illustrates a variety of materials and construction activities. Most of the book takes the form of a picture book with accompanying captions and commentary. Activities are open-ended. The book is organized in five main sections: structures, on the move, materials, kitchen technology and "other things."

GRADE 3 – TOPIC B

Elementary Technology

Series: *Techniques for Technology*

Grades 3, 4, 5 *Authorized Teaching*
Topics 3B, 3C, 4A, 4B, 5A, 5B

Copyright/ISBN 1994 / 1899413103

Publisher Technology Teaching Systems

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 304171

Est. Price \$24.90

This resource book on materials, tools and techniques provides a set of captioned pictures and explanations to guide teachers and students in construction activities. Black and white illustrations show a wide range of materials and techniques in such areas as wooden structures, axles, motors, sensors and switches, as well as example applications in buggies, bridges and barriers. Several challenging design and make activities are included.



Folens Technology in Action: Unit Two: Key Stage 2: Year 3 Juniors (Age 7-8)

Series: *Folens Technology in Action*

Grades 3, 4 *Authorized Teaching*
Topics 3B, 4C

Author(s) Harrison, P.; Ryan, C.

Copyright/ISBN 1990 / 1852761164

Publisher Folens Publishers

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298259

Est. Price \$112.00

This series is a theme-based program that enables teachers to integrate technology with other curriculum areas. Children develop technological skills through a broad range of activities and projects. The themes of movement, life forces, structures and leisure run throughout the program.



Hands-On Technology

Grades 1, 2, 3, 4 *Authorized Teaching*
Topics 1C, 2B, 3B, 4C

Author(s) Idle, I.K.

Copyright/ISBN 1991 / 0748712968

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292714

Est. Price \$33.55

This teacher resource provides a general introduction to the methods and materials for teaching technology topics to young children. Set in the context of the National Curriculum of Great Britain, this resource shows the kinds of learnings that are appropriate for the younger child and provides examples of activities and actual student work.



How Buildings Work: How People Use Materials to Build Structures: The Little Book of Exploration

Series: *Science Place*

Grade 3 *Support*
Topics 3B, 3C

Copyright/ISBN 1995 / 0590276506

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301193

Est. Price \$9.20

This resource provides questions and specific tasks for students, along with practical illustrations of how different methods of building are applied.



How Buildings Work: How People Use Materials to Build Structures: ScienceMats

Series: *Science Place*

Grade 3 *Authorized Teaching*
Topics 3B, 3C

Copyright/ISBN 1995 / 0590276549

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301143

Est. Price \$26.55

The science mats are blackline masters that can be used for setting tasks for students, recording what students learn and evaluating student progress.

Note: April 1998 LRDC prices are quoted.

GRADE 3 – TOPIC B



How Buildings Work: How People Use Materials to Build Structures: A Teacher's Map to Exploration

Series: *Science Place*

Grade 3 *Authorized Teaching Topics 3B, 3C*

Copyright/ISBN 1995 / 0590276514

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301151

Est. Price \$37.15

This teacher guide, together with the science mats, outlines a sequence of 18 lessons with activities that explore how buildings are constructed and why particular materials and designs are used. Lesson outlines include objectives, preparations, content background, suggestions for developing the lesson, extensions, options and evaluations.



Nelson Science: Teacher's Classroom Manual: Key Stage 1

Series: *Nelson Science*

Grades 1, 2, 3 *Authorized Teaching Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D*

Author(s) Hopkins, S.; Hunter, A.

Copyright/ISBN 1990 / 0174231849

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293051

Est. Price \$76.40

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: *Nelson Science*

Grades 3, 4, 5, 6 *Authorized Teaching Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C*

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.



Paper Skyscraper, The: The Technology of Materials (Canadian Ed.)

Series: *Realization*

Grade 3 *Topics 3B, 3C*

Support

Author(s) Drew, D.

Copyright/ISBN 1992 / 0731206266

Publisher Prentice Hall

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 300484

Est. Price \$33.20

What material would this be? A series of hints are provided about a material; then students are challenged to identify what it is, and check by lifting a flap at the bottom of the page. Students are invited to extend their thinking about materials by writing other pages that would fit in this slim book and imagining the result of substituting one material for another in some everyday objects.

GRADE 3 – TOPIC B

Paperchase

Series: *Science Start Here*

Grade 3
Topic 3B

Support

Copyright 1988

Publisher Journal Films

Distributor T.H.A. Media Distribution Ltd.

Supplier LRDC

Order No. 310623

Est. Price \$99.25

The characteristics of paper as a construction material are explored in this 15-minute video. Students are shown engaged in strength tests of materials and designs. Methods for making paper, including recycled paper, are shown.



Structures

Series: *Exploring Technology*

Grade 3
Topic 3B

Support

Author(s) Dixon, M.

Copyright/ISBN 1991 / 1852109327

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier Out-of-Print

Houses, towers, tunnels, bridges, cranes, dams and animal homes are among the many kinds of structures illustrated and described in this book. Activities provide opportunities for students to investigate different designs and materials. These activities are supported by a list of materials, directions and illustrations. A glossary and index are provided.



Teaching Techniques for Elementary Technology

Series: *Design & Make*

Grades 2, 3, 4, 5, 6

Authorized Teaching

Topics 2B, 3B, 4C, 5B, 6B

Copyright/ISBN 1994 / 1884461050

Publisher NES Arnold Educational

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304139

Est. Price \$27.55

This teacher resource book outlines construction techniques and student projects, using wood, cardboard, elastic bands and a variety of recycled materials. Activities include various fixed and moving structures, such as boats, airplanes, vehicles and devices that use electric motors. Construction suggestions and simple line drawings are provided for each activity.

Note: April 1998 LRDC prices are quoted.



Techniques for Primary Design and Technology

Series: *Rainbow Technology*

Grades 3, 4, 5

Authorized Teaching

Topics 3B, 4C, 5B

Author(s) Gibson, C. et al.

Copyright/ISBN 1991 / 0748711236

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298267

Est. Price \$33.55

This illustrated how-to book shows a variety of techniques that can be used for construction and problem-solving tasks. An introductory section gives general suggestions on materials and applications. This is followed by separate sections on such topics as electricity, structures, going round and round, making noises, motors, releasing, and making adjustments.



Technology IDEAS (Integrating Design Education Activities for Students): A Teaching Resource Book

Grades 3, 4, 5, 6

Authorized Teaching

Topics 3B, 4C, 5B, 6B

Author(s) Reynolds, B.; Corney, B.; Dale, N.

Copyright/ISBN 1993 / 0029541549

Publisher Maxwell MacMillan Canada

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

Order No. 291881

Est. Price \$39.50

This resource book provides teaching suggestions and blackline masters for 29 challenge activities covering a wide range of technologies. Challenges involve building structures and devices that will perform specific tasks. General suggestions for planning, organizing and using tools are also provided.

GRADE 3 – TOPIC B



Technology: Key Stage 1

Series: Blueprints

Grades 3, 4
Topics 3B, 4C

Authorized Teaching

Author(s) Gadd, T.; Morton, D.

Copyright/ISBN 1992 / 0748713573

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298275

Est. Price \$33.55

This resource book provides an illustrated activity bank of ideas for learning about technology. Organized into five themes, each section provides a general map for learning activities, followed by pictures of models for students to construct. Themes developed in this resource are: movement, changes, taking care of things, structures, and out and about. One section of the resource outlines suggested activities based on children's stories. There is also a section on organizing resources and student records, and there is a set of reproducible challenge activities.



Technology: Key Stage 2

Series: Blueprints

Grades 3, 4
Topics 3B, 4C

Authorized Teaching

Author(s) Gadd, T.; Morton, D.

Copyright/ISBN 1992 / 0748714952

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298283

Est. Price \$33.55

This resource book provides a bank of activity ideas and projects for learning about technology. All activities are illustrated with line drawings and supported by notes on construction techniques. Some activities involve construction of stationary structures but most incorporate moving parts involving wheels, pulleys and levers. The guide includes: ideas for using stories as starting points for projects, a section on challenge activities, sample planning sheets for students and suggestions for keeping records of student progress.



Towers and Bridges

Series: Science Spirals

Grade 3
Topic 3B

Support

Author(s) Fitzpatrick, J.

Copyright/ISBN 1986 / 023760213X

Publisher Evans Brothers Ltd.

Distributor Fitzhenry & Whiteside Ltd.

Supplier Out-of-Print

Illustrations of a variety of buildings and bridges are used for investigating how and why they are built the way they are. Activities include a list of materials and simple colour illustrations. A glossary and notes for teachers and parents are provided.



Up Goes the Skyscraper!

Grade 3
Topic 3B

Support

Author(s) Gibbons, G.

Copyright/ISBN 1986 / 0689714114

Publisher Collier MacMillan International

Distributor Distican

Supplier LRDC

Order No. 306531

Est. Price \$8.90

The processes of designing and building a skyscraper are described and illustrated in this tall format book. From clearing the construction site to final finishing of the exterior, this book describes various jobs and materials used.

GRADE 3 – TOPIC C



Building

Series: *Make It Work!*

Grade 3

Support

Topics 3B, 3C

Author(s) Glover, D.

Copyright/ISBN 1995 / 059024616X

Publisher Scholastic-TAB Publications Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 321919

Est. Price \$7.75

Activities for building many kinds of useful structures are clearly outlined. Colour photographs and step by step instructions are combined with straightforward explanations of the design principles used. Structures shown include block towers, bridges, tents, dams, cable cars, cranes, roofed structures and boxes. The introduction to different methods of joining materials is a particularly helpful feature.



Challenging Artstraws: 14 Challenges for Integrating Science, Mathematics & Technology

Series: *Design & Make*

Grade 3

Authorized Teaching

Topics 3B, 3C

Copyright/ISBN 1994 / 1884461077

Publisher NES Arnold Educational

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304121

Est. Price \$20.15

This teacher resource outlines a set of activities for building structures, using straws as the basic framework. Devices to be constructed include bridges, towers, supports, lifts, shelters, marble tracks and barriers. A general description and an illustration are provided for each activity.



Design & Make Activities: Grade 3: Building Structures

Grade 3

Authorized Teaching

Topics 3B, 3C

Copyright 1994

Publisher Technology Teaching Systems

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304155

Est. Price \$25.15

This teacher guide provides background information and learning activities on building structures. The tools and techniques of building structures are described in the two introductory sections. The later sections outline specific activities in a clear outline format illustrated with line drawings.



Early Start to Technology from Science, An

Grades 3, 4

Authorized Teaching

Topics 3B, 3C, 4C

Author(s) Richards, R.

Copyright/ISBN 1990 / 0750100338

Publisher Simon & Schuster Young Books

Distributor Bacon and Hughes

Supplier LRDC

Order No. 300525

Est. Price \$33.55

This idea book illustrates a variety of materials and construction activities. Most of the book takes the form of a picture book with accompanying captions and commentary. Activities are open-ended. The book is organized in five main sections: structures, on the move, materials, kitchen technology and "other things."



Elementary Technology

Series: *Techniques for Technology*

Grades 3, 4, 5

Authorized Teaching

Topics 3B, 3C, 4A, 4B, 5A, 5B

Copyright/ISBN 1994 / 1899413103

Publisher Technology Teaching Systems

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 304171

Est. Price \$24.90

This resource book on materials, tools and techniques provides a set of captioned pictures and explanations to guide teachers and students in construction activities. Black and white illustrations show a wide range of materials and techniques in such areas as wooden structures, axles, motors, sensors and switches, as well as example applications in buggies, bridges and barriers. Several challenging design and make activities are included.

Note: April 1998 LRDC prices are quoted.

GRADE 3 – TOPIC C



How Buildings Work: How People Use Materials to Build Structures: The Little Book of Exploration

Series: *Science Place*

Grade 3

Support

Topics 3B, 3C

Copyright/ISBN 1995 / 0590276506

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301193

Est. Price \$9.20

This resource provides questions and specific tasks for students, along with practical illustrations of how different methods of building are applied.



How Buildings Work: How People Use Materials to Build Structures: Science Mats

Series: *Science Place*

Grade 3

Authorized Teaching

Topics 3B, 3C

Copyright/ISBN 1995 / 0590276549

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301143

Est. Price \$26.55

The science mats are blackline masters that can be used for setting tasks for students, recording what students learn and evaluating student progress.



How Buildings Work: How People Use Materials to Build Structures: A Teacher's Map to Exploration

Series: *Science Place*

Grade 3

Authorized Teaching

Topics 3B, 3C

Copyright/ISBN 1995 / 0590276514

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301151

Est. Price \$37.15

This teacher guide, together with the science mats, outlines a sequence of 18 lessons with activities that explore how buildings are constructed and why particular materials and designs are used. Lesson outlines include objectives, preparations, content background, suggestions for developing the lesson, extensions, options and evaluations.



Paper Skyscraper, The: The Technology of Materials (Canadian Ed.)

Series: *Realization*

Grade 3

Support

Topics 3B, 3C

Author(s) Drew, D.

Copyright/ISBN 1992 / 0731206266

Publisher Prentice Hall

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 300484

Est. Price \$33.20

What material would this be? A series of hints are provided about a material; then students are challenged to identify what it is, and check by lifting a flap at the bottom of the page. Students are invited to extend their thinking about materials by writing other pages that would fit in this slim book and imagining the result of substituting one material for another in some everyday objects.

Note: April 1998 LRDC prices are quoted.

GRADE 3 – TOPIC D



Nelson Science: Teacher's Classroom Manual: Key Stage 1

Series: *Nelson Science*

Grades 1, 2, 3

Authorized Teaching

Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D

Author(s) Hopkins, S.; Hunter, A.

Copyright/ISBN 1990 / 0174231849

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293051

Est. Price \$76.40

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: *Nelson Science*

Grades 3, 4, 5, 6

Authorized Teaching

Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.



Physics of Sound

Series: *Full Option Science System (FOSS)*

Grade 3

Authorized Teaching

Topic 3D

Copyright/ISBN 1992 / 0782600115

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Britannica Publications

Supplier LRDC

Order No. 304254

Est. Price \$190.20

This teacher resource provides activity outlines for a unit on sound. The unit has four modules. The first examines the sounds created by different objects when they are dropped, the second investigates sound travel, the third looks at vibrations, and the fourth involves students creating and testing a variety of sound-producing devices. Modular outlines include an overview, purpose, background, materials suggestions for preparing and presenting activities, follow-up activities, extensions and applications. Modules and related blackline masters are packaged in a 3-ring binder format.



Sound

Series: *Make it Work!*

Grade 3

Support

Topic 3D

Author(s) Baker, W.; Haslam, A.

Copyright/ISBN 1993 / 0590745220

Publisher Scholastic-TAB Publications Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301375

Est. Price \$13.55

Basic ideas about sound are linked to a wide variety of student investigations. Topics include sound waves, the ear, how sound travels, how sound can be amplified, and ways for producing and controlling sound. A glossary and index are included as well as a list of materials, directions and illustrations for each activity. The reading level may require some teacher assistance for students at the Grade 3 level.

BEST COPY AVAILABLE

Note: April 1998 LRDC prices are quoted.

GRADE 3 – TOPIC D



Sound

Series: *Wonder Why*

Grade 3

Topic 3 D

Support

Copyright 1990

Publisher CTV Television Network

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Order No. 311613

Est. Price \$81.40

How sound is made and how it travels is examined in this 24-minute video. Using examples from the world of music, students learn how different levels of sounds are produced. Models are used to help explain how human speech is created and how the human ear recognizes sound.



Sound (2nd Ed.)

Series: *Matter and Energy for Beginners*

Grade 3

Topic 3 D

Support

Copyright 1990

Publisher Bill Walker Productions

Distributor Prentice Hall Ginn Publishing Co.

Supplier Vendor Direct

This 13-minute video accompanies Investigator Alligator as he carries out a series of investigations to find out about sound. Along the way Alligator learns about how one sound differs from another, how sounds are produced and how they travel.



Sound: Exploring the Energy You Hear: The Little Book of Exploration

Series: *Science Place*

Grade 3

Topic 3 D

Support

Copyright/ISBN 1995 / 0590276425

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301185

Est. Price \$9.20

This resource provides background information, questions and specific tasks for students.



Sound: Exploring the Energy You Hear: ScienceMats

Series: *Science Place*

Grade 3

Topic 3 D

Authorized Teaching

Copyright/ISBN 1995 / 0590276468

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301177

Est. Price \$26.55

The science mats are blackline masters that can be used for setting tasks, recording results and evaluating student progress.



Sound: Exploring the Energy You Hear: A Teacher's Map to Exploration

Series: *Science Place*

Grade 3

Topic 3 D

Authorized Teaching

Copyright/ISBN 1995 / 0590592041

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301169

Est. Price \$37.15

This teacher guide, together with the science mats, outlines a sequence of 18 lessons with activities that explore the nature and production of sound. Lesson outlines include objectives, preparations, content background, suggestions for developing the lesson, extensions, options and evaluations.



Sound: Teacher's Guide

Series: *Delta Science Modules*

Grade 3

Topic 3 D

Authorized Teaching

Copyright/ISBN 1988 / 0875047475

Publisher Delta Education

Distributor Delta Education

Supplier LRDC

Order No. 293803

Est. Price \$18.80

This teacher guide outlines 10 activities for investigating sound, and includes learning expectations, materials, preparations and teaching suggestions. Activities examine sound sources, sound travel, characteristics of sound and methods for controlling sound characteristics. A glossary and suggestions for evaluation are provided.

Note: April 1998 LRDC prices are quoted.

GRADE 3 – TOPIC D



Sounds and Music

Series: *Secrets of Science*

Grade 3

Topic 3 D

Support

Author(s) Kerrod, R.

Copyright/ISBN 1990 / 0745150659

Publisher Cherrytree Press

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 304973

Est. Price \$24.75

Concepts related to the production of sound are explained. Suggested activities that illustrate and explore these concepts are also mentioned.



Sounds: Student Activity Book

Series: *Science and Technology for Children*

Grade 3

Topic 3 D

Support

Copyright/ISBN 1991 / 0892786965

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293192

Est. Price \$7.10

Students investigate sound: how it is made, how pitch and loudness is controlled, and how a variety of sound-producing devices are made and used. Activities reinforce the idea that sounds are produced by vibrations.



Sounds: Teacher's Guide

Series: *Science and Technology for Children*

Grade 3

Topic 3 D

Authorized Teaching

Copyright/ISBN 1991 / 0892786957

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293184

Est. Price \$44.65

Students investigate sound: how it is made, how pitch and loudness is controlled, and how a variety of sound-producing devices are made and used. This resource includes an overview, objectives, teaching strategies, classroom management tips, background information, materials list, and suggestions for extension and evaluation. The guide may be used in conjunction with the student activity book but provides sufficient information for use on its own.

GRADE 3 – TOPIC E



Animals in the Classroom: Selection, Care, and Observations

Grades 1, 2, 3
Topics 1E, 2E, 3E

Authorized Teaching

Author(s) Kramer, D.C.

Copyright/ISBN 1989 / 020120679X

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292293

Est. Price \$39.80

This resource book provides basic information on the characteristics and care of a variety of mammals, birds, reptiles, amphibians, fish, insects and other small animals suitable for study in the classroom. An introductory section has general background on things to consider before bringing animals into a school. Each section includes notes on handling, housing, diet and reproduction. A brief list of observations, activities and questions is also included in each section.



Babies and Their Parents (2nd Ed.)

Series: *Animal Behavior*

Grades 1, 3
Topics 1E, 3E

Support

Copyright 1991

Publisher Coronet Film & Video

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Order No. 322008

Est. Price \$116.75

Frogs, turtles, crocodiles, birds, jackals and elephants are used to illustrate the ways animals provide for their young. The instructional sequence explains how variations in parental care involve the provision of food, shelter, protection and training for the young.



Butterfly, The

Series: *Life Cycles*

Grade 3
Topic 3 E

Support

Author(s) Hogan, P.Z.

Copyright/ISBN 1991 / 081148176X

Publisher Steck-Vaughn Co.

Distributor Gage Educational Publishing

Supplier LRDC

Order No. 323006

Est. Price \$12.00

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.



Critters

Grades 2, 3
Topics 2E, 3E

Authorized Teaching

Author(s) Murphy, A.M. et al.

Copyright/ISBN 1992 / 1881431231

Publisher Aims Education Foundation

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 292409

Est. Price \$30.05

This teacher resource provides background information, activity outlines and blackline masters to support the study of a variety of small creatures. Animal groups studied include: earthworms, snails, isopods, spiders and insects (with a section on mealworms). Sections on food chains, adaptation and camouflage are also included.



Dandelion, The

Series: *Life Cycles*

Grade 3
Topic 3 E

Support

Author(s) Hogan, P.Z.

Copyright/ISBN 1991 / 0811481824

Publisher Steck-Vaughn Co.

Distributor Gage Educational Publishing

Supplier LRDC

Order No. 323014

Est. Price \$12.00

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.

Note: April 1998 LRDC prices are quoted.

GRADE 3 – TOPIC E



Earthworms (Includes: How Earthworms Live; Earthworms and Their Food; How Earthworms Grow)

Series: *Sunshine Science*

Grades 1, 2, 3
Topics 1E, 2E, 3E

Support

Author(s) Plater, I.

Title	Order No.	Est. Price
How Earthworms Live (6 copies per package)	301614	\$37.35
Earthworms and Their Food (6 copies per package)	301622	\$37.35
How Earthworms Grow (6 copies per package)	301630	\$37.35

Copyright 1995

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

The structure, life habits and relationships of earthworms to their environment is described in this set of three booklets. The first booklet shows how earthworms are adapted to their environment, the second shows their structure and their role within the environment, and the third shows their reproduction. All booklets have a glossary and index and are illustrated with large colour photographs.



Egg, The

Series: *First Discovery*

Grade 3
Topic 3 E

Support

Author(s) de Bourgoing, P.; Jeunesse, G.

Copyright/ISBN 1990 / 1851030824

Publisher Moonlight Publishing Ltd.

Distributor University of Toronto Press

Supplier LRDC

Order No. 310326 **Est. Price** \$12.10

The structure and life cycle of birds are illustrated in this resource. Development of a chicken's egg is shown in detail, using transparent overlays to provide external and internal views.



Elephant, The

Series: *Life Cycles*

Grade 3
Topic 3 E

Support

Author(s) Hogan, P.Z.

Copyright/ISBN 1991 / 0811481778

Publisher Steck-Vaughn Co.

Distributor Gage Educational Publishing

Supplier Out-of-Print

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.



First Look at Birds, A

Grades 1, 3, 5, 6
Topics 1E, 3E, 5E, 6B

Support

Copyright 1993

Publisher Aims Media

Distributor Canadian Learning Company Inc.

Supplier LRDC

Order No. 325185

Est. Price \$58.90

This video introduces viewers to a wide variety of bird species and describes the anatomic features that suit each bird to its habitat and way of living. Feeding habits, breeding, migration and communication methods are shown.



Frog, The

Series: *Life Cycles*

Grade 3
Topic 3 E

Support

Author(s) Hogan, P.Z.

Copyright/ISBN 1991 / 0811481751

Publisher Steck-Vaughn Co.

Distributor Gage Educational Publishing

Supplier Out-of-Print

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.

GRADE 3 – TOPIC E



Honeybee, The

Series: *Life Cycles*

Grade 3
Topic 3 E

Support

Author(s) Hogan, P.Z.

Copyright/ISBN 1991 / 0811481794

Publisher Steck-Vaughn Co.

Distributor Gage Educational Publishing

Supplier LRDC

Order No. 323048

Est. Price \$12.00

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.



Kangaroo, The

Series: *Life Cycles*

Grade 3
Topic 3 E

Support

Author(s) Hogan, P.Z.

Copyright/ISBN 1991 / 0811481816

Publisher Steck-Vaughn Co.

Distributor Gage Educational Publishing

Supplier LRDC

Order No. 323056

Est. Price \$11.45

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.



Life Cycle of Butterflies, The: Student Notebook

Series: *Science and Technology for Children*

Grade 3
Topic 3 E

Support

Copyright/ISBN 1992 / 0892786183

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 305434

Est. Price \$7.10

This resource provides activity outlines and diagrams that supplement the teacher's guide, and will assist students in working independently. The teacher's guide outlines 15 activities for the observation and care of butterflies from a caterpillar stage, through a chrysalis stage, to adulthood.



Life Cycle of Butterflies, The: Teacher's Guide

Series: *Science and Technology for Children*

Grade 3
Topic 3 E

Authorized Teaching

Copyright/ISBN 1992 / 0892786175

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 305442

Est. Price \$44.65

The teacher's guide outlines 15 activities for the observation and care of butterflies from a caterpillar stage, through a chrysalis stage, to adulthood. All activities are clearly laid out in a format that includes background information, materials, preparation, instructional procedures, blackline masters, and suggestions for extensions and evaluation. Appendices provide suggestions for assessment, information on silkworms, a bibliography and blackline masters illustrating stages in the insect's life cycle.



Life Cycles: Teacher's Guide

Series: *Life Cycles*

Grade 3
Topic 3 E

Authorized Teaching

Copyright/ISBN 1993 / 0811482758

Publisher Steck-Vaughn Co.

Distributor Gage Educational Publishing

Supplier LRDC

Order No. 323080

Est. Price \$10.50

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. This teacher's guide provides background information and suggestions for developing and extending student learning.

GRADE 3 – TOPIC E



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: Nelson Science

Grades 3, 4, 5, 6 *Authorized Teaching Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C*

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.



Salmon, The

Series: Life Cycles

Grade 3
Topic 3 E

Support

Author(s) Hogan, P.Z.

Copyright/ISBN 1991 / 0811481786

Publisher Steck-Vaughn Co.

Distributor Gage Educational Publishing

Supplier LRDC

Order No. 323064

Est. Price \$11.45

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.



Snails (Includes: How Snails Live; How Snails Protect Themselves; The Life Cycle of a Snail)

Series: Sunshine Science

Grades 1, 2, 3
Topics 1E, 2E, 3E

Support

Author(s) Brough, C.

Title

Order No. Est. Price

How Snails Live (6 copies per package)

301599

\$37.35

How Snails Protect Themselves (6 copies per package)

301581

\$37.35

The Life Cycle of a Snail (6 copies per package)

301606

\$37.35

Copyright 1995

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

The diversity of snails and some fascinating facts about them are described in this set of three booklets. The first and second booklets examine snail structure, life habits and adaptations of snails to their environments. The third booklet shows the life cycle. All booklets are illustrated with large colour photographs, and include a glossary and index.



Whale, The

Series: Life Cycles

Grade 3
Topic 3 E

Support

Author(s) Hogan, P.Z.

Copyright/ISBN 1991 / 0811481808

Publisher Steck-Vaughn Co.

Distributor Gage Educational Publishing

Supplier LRDC

Order No. 323072

Est. Price \$12.00

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.

Note: April 1998 LRDC prices are quoted.

GRADE 4 SERIES

EXPLORATIONS IN SCIENCE

Author(s): Campbell, S. et al.

Publisher/Distributor: Addison-Wesley Publishers

This series is an activity-based program that encourages students to get involved in science by exploring and experimenting with materials while working in a variety of groupings and settings. The program is organized in topics of study around five themes that provide a framework for science concepts and principles. The teacher's resource book has blackline masters; literature links; and extensive strategies for planning, implementing and exploring.

TEACHER RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
 Explorations in Science: Level Four: Assessment Handbook	Authorized Teaching	291740	\$27.10
Copyright/ISBN 1993 / 0201606801			
 Explorations in Science: Level Four: Teacher's Resource Book (Modular Ed.) (includes Alberta Implementation Guide)	Authorized Teaching	291758	\$212.60
Copyright/ISBN 1995 / 0201881853			

STUDENT RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
 Explore!: A Book of Science: Level Four Student Resource Book	Support	293316	\$21.10
Copyright/ISBN 1992 / 0201555093			
 Explore!: A Book of Science: Level Five Student Resource Book	Support	293324	\$21.10
Copyright/ISBN 1993 / 0201560682			

INNOVATIONS IN SCIENCE

Author(s): Peturson, R.; McAllister, N.

Publisher/Distributor: Holt, Rinehart & Winston/Harcourt Brace & Co.

This series supports student-centred, activity-based science. It is organized around themes and topics that provide science-technology-society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

TEACHER RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
 Innovations in Science: Level 4: Teacher Resource Package (Alberta Edition)	Authorized Teaching	292748	\$199.50
Copyright/ISBN 1996 / 0774701765			

STUDENT RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
 Innovations in Science: Level 4 (Student Book) (Alberta Edition)	Support	292772	\$33.95
ISBN 0774701757			

Note: April 1998 LRDC prices are quoted.

GRADE 4 SERIES

LET'S DO SCIENCE

Publisher/Distributor: Science Alberta Foundation

This six-volume teacher guide provides a ready reference for planning and teaching the Alberta elementary science program. It provides a general introduction to the program and topic by topic outlines that include background information, suggested activities for teaching and learning, and specific references to student and teacher resources for each activity.

TEACHER RESOURCES

SUPPLIER: LRDC

			Order No.	Est. Price
			295627	\$29.90
	Let's Do Science: Level 4: A Time-Saving, Teacher-Friendly Guide to Alberta's Elementary Science Curriculum	<i>Authorized Teaching</i>		
	Copyright/ISBN 1995 / 1896618049			
	Let's Do Science: Levels 1 - 6 (Complete Set)	<i>Authorized Teaching</i>	295586	\$169.55

Note: April 1998 LRDC prices are quoted.

GRADE 4 – TOPIC A



Art and Science Connection, The: Hands-On Activities for Intermediate Students

Grades 2, 4, 5, 6 *Authorized Teaching*
Topics 2A, 4A, 4D, 5C, 6D

Author(s) Tolley, K.

Copyright/ISBN 1994 / 0201455455

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292285

Est. Price \$35.45

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.



Art and Science Connection, The: Hands-On Activities for Primary Students

Grades 1, 4 *Authorized Teaching*
Topics 1A, 1D, 1E, 4A, 4D, 4E

Author(s) Tolley, K.

Copyright/ISBN 1993 / 0201455447

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 298069

Est. Price \$35.45

This guide is a resource for the classroom teacher, or specialist, interested in integrating art and science. There are 30 lessons, each with clear suggestions for organizing and developing the activity, including sections on getting ready, observing, comparing and describing, drawing conclusions, and creating. Blackline masters are provided.



Bottle Biology: An Idea Book for Exploring the World through Plastic Bottles and Other Recyclable Materials

Grades 2, 3, 4 *Authorized Teaching*
Topics 2E, 3A, 4A, 4E

Author(s) Ingram, M.

Copyright/ISBN 1993 / 080438601X

Publisher Kendall/Hunt Publishing

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

Order No. 304816

Est. Price \$30.95

This coilbound idea book shows a variety of ways to use plastic bottles and other recyclable materials for studying soil, decomposition and a variety of small creatures. Background information, activity suggestions, as well as specific directions for the preparation and use of materials are included.



Elementary Technology

Series: *Techniques for Technology*

Grades 3, 4, 5 *Authorized Teaching*
Topics 3B, 3C, 4A, 4B, 5A, 5B

Copyright/ISBN 1994 / 1899413103

Publisher Technology Teaching Systems

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 304171

Est. Price \$24.90

This resource book on materials, tools and techniques provides a set of captioned pictures and explanations to guide teachers and students in construction activities. Black and white illustrations show a wide range of materials and techniques in such areas as wooden structures, axles, motors, sensors and switches, as well as example applications in buggies, bridges and barriers. Several challenging design and make activities are included.

Note: April 1998 LRDC prices are quoted.

GRADE 4 – TOPIC A



Garbage and Recycling

Series: *Environment Alert Series*

Grade 4

Topic 4 A

Support

Author(s) Woodburn, J.

Copyright/ISBN 1992 / 0836807006

Publisher Gareth Stevens Publishing

Distributor WEIGL Educational Publishers

Supplier LRDC

Order No. 306549

Est. Price \$18.85

Worldwide problems created by waste are described and illustrated in this 32-page resource. Alternative ways to deal with the problems are presented, and specific examples are shown. Suggested activities for students are included.



Garbage: Theme Unit Based on Activities from the Hackensack Meadowlands Development Commission Environment Center

Series: *Learning Connections*

Grade 4

Topic 4 A

Authorized Teaching

Author(s) Fleming, M.

Copyright/ISBN 1992 / 0590491636

Publisher Scholastic

Distributor Scholastic-TAB Publications Ltd.

Supplier Out-of-Print

This teacher resource provides background information, suggested activities and blackline masters for studying about garbage. Activities are organized in two sections—Part 1: The Garbage Problem; Part 2: Solving the Problem.



Getting Rid of Waste Water

Series: *Sunshine Science*

Grade 4

Topic 4 A

Support

Author(s) Biddulph, F.; Biddulph, J.

Copyright/ISBN 1995 / 9622918840

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 301945

Est. Price \$37.35

Sources and treatment of waste water are described in this brief booklet. Colour photographs and drawings show technologies used. A glossary and index are included.



Let's Recycle

Grade 4

Topic 4 A

Authorized Teaching

Publisher Alberta Environmental Protection

Distributor Alberta Environmental Protection

Supplier Vendor Direct (Available Free of Charge)

A teacher's guide, colourful posters and activity masters cover the four R's: reduce, reuse, recycle and recover.



Matter of Waste, A: A Waste Education Program for Grade 4 to 6

Grade 4

Topic 4 A

Authorized Teaching

Copyright 1994

Publisher Alberta Environmental Protection

Distributor Alberta Environmental Protection

Supplier Vendor Direct (Available Free of Charge)

A teacher's guide, colour posters, blackline masters, reproducible student booklet and information sheets are included in this resource on waste. Activities proceed from developing awareness of the different forms and amounts of waste generated, to learning about the effects of waste and means of its disposal. The student booklet relates the story of Michael and Meaghan, two young students who are researching the topic of waste.



My First Green Book

Series: *My First Series*

Grade 4

Topic 4 A

Support

Author(s) Wilkes, A.

Copyright/ISBN 1991 / 0773724974

Publisher Stoddart Publishing

Distributor Irwin Publishing

Supplier LRDC

Order No. 298176

Est. Price \$14.85

Being green as described in this resource means caring for and learning about the environment by studying plants, soil, gardening, water, water and air pollution, and garbage and waste disposal. This large format book, supported by activities and large colour photographs, provides a brief introduction to each of these topics. Suggestions for being green include ideas on shopping, packaging, caring for endangered ecosystems and becoming an advocate for the environment.

Note: April 1998 LRDC prices are quoted.

GRADE 4 – TOPIC A



Waste and Recycling

Series: *Conserving Our World*

Grade 4

Authorized Teaching

Topic 4 A

Author(s) James, B.

Copyright/ISBN 1989 / 0750202742

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293077

Est. Price \$10.60

This resource examines the various forms of waste that result from consumer lifestyles and current technologies, and the impact of those wastes on environments, animals and people. Colour pictures, diagrams and charts expand points made in the text. Although the reading level may be too difficult for most Grade 4 students, they will still be able to glean much from the presentation.

GRADE 4 – TOPIC B



Craft, Design and Technology

Series: Copy Kits

Grade 4 *Authorized Teaching*
Topics 4B, 4C

Author(s) Bennett, J.; Smith, R.

Copyright/ISBN 1989 / 0706246381

Publisher Ward Lock Educational

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292722 **Est. Price** \$39.15

This resource includes a teacher guide with 46 activity outlines accompanied by 48 leaflets that serve as blackline masters. Each activity outline consists of objectives, materials, an activity description and suggested age range. The first 13 activities focus on materials, adhesives and design of simple containers. These are followed by 22 activities on various vehicles and devices that move and 11 one-of-a-kind constructions.



Design & Make Activities: Grade 4: Devices that Move

Grade 4 *Authorized Teaching*
Topics 4B, 4C

Copyright 1994

Publisher Technology Teaching Systems

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304163 **Est. Price** \$35.35

This teacher guide provides background information and learning activities to support an instructional unit on vehicles and devices that move. An introductory section on the safe use of tools precedes four sections that outline specific activities on levers and linkages, simple machines, and building a variety of moving devices. All activities and techniques are illustrated with line drawings.



Elementary Technology

Series: Techniques for Technology

Grades 3, 4, 5 *Authorized Teaching*
Topics 3B, 3C, 4A, 4B, 5A, 5B

Copyright/ISBN 1994 / 1899413103

Publisher Technology Teaching Systems

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 304171 **Est. Price** \$24.90

This resource book on materials, tools and techniques provides a set of captioned pictures and explanations to guide teachers and students in construction activities. Black and white illustrations show a wide range of materials and techniques in such areas as wooden structures, axles, motors, sensors and switches, as well as example applications in buggies, bridges and barriers. Several challenging design and make activities are included.



Levers and Pulleys: Teacher's Guide

Series: Full Option Science System (FOSS)

Grade 4 *Authorized Teaching*
Topic 4B

Copyright/ISBN 1992 / 078260059X

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Britannica Publications

Supplier LRDC

Order No. 293837 **Est. Price** \$190.20

Organized in a 3-ring binder format, this teacher guide provides an overview, activity outlines, assessment materials and duplication masters for studying levers and pulley systems. The overview section provides general background on the content of the unit and an introduction to the unit organization and instructional approach. This is followed by four activity folios, each including instructional objectives; a brief overview and background notes; materials list; methods for preparing and developing the activity; and an analysis of vocabulary, language and mathematics development within the activity. The four folios are: Levers, More Leverage, Pulleys, and Pulleys at Work. Hands-on materials to support this unit are available from the publisher or may be obtained separately.

Note: April 1998 LRDC prices are quoted.

GRADE 4 – TOPIC B



Lifting by Levers

Series: *How Things Work*

Grade 4
Topic 4B

Support

Author(s) Dunn, A.

Copyright/ISBN 1991 / 0750202181

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 300103

Est. Price \$18.40

Simple levers and a variety of simple and complex applications are described and illustrated in this colourful, easy-to-read book. Explanations of how levers and lever systems operate are supplemented by diagrams that clearly show where effort, load and fulcrum are located.



Machines

Series: *Make It Work!*

Grade 4
Topics 4B, 4C

Support

Author(s) Baker, W.; Haslam, A.

Copyright/ISBN 1995 / 0590244019

Publisher Scholastic Canada Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 314865

Est. Price \$7.75

Activities for constructing and testing many kinds of machines are clearly outlined. Colour photographs and step by step instructions are combined with straightforward explanations of the principles involved. Machines shown include catapults, lever systems, gears, screws, rockets, clocks and rubber band powered devices.



Machines

Series: *Starting Technology*

Grade 4
Topics 4B, 4C

Support

Author(s) Williams, J.

Copyright/ISBN 1991 / 0750200251

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293100

Est. Price \$18.40

A variety of applications of simple machines are explored through clearly explained and illustrated construction activities. Illustrations include colour drawings of student constructed models and accompanying photographs that allow students to make direct comparisons between the model and the real thing.



Mathematics, Science & Technology: Volume 1: Making Sense of Technology

Series: *Active Learning*

Grade 4
Topics 4B, 4C

Authorized Teaching

Copyright 1993

Publisher Exclusive Educational Products

Distributor Exclusive Educational Products

Supplier LRDC

Order No. 292152

Est. Price \$37.10

This resource of activity outlines and blackline masters is designed for use with a hands-on materials kit—as supplied by the publisher, or equivalent materials available from other sources. An introductory section outlines learner expectations, teaching strategies and organizational suggestions. This is followed by three sections of activity outlines: the first on techniques for constructing and using gears, levers and pulleys; the second on applied activities; and the third on challenges. Each activity in these sections is described on a reproducible master for students, with teacher notes on the back. Supplementary sections include a set of theme ideas, an illustrated glossary and additional masters for use by students to plan and record their activities.

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Note: April 1998 LRDC prices are quoted.

GRADE 4 – TOPIC B



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: Nelson Science

Grades 3, 4, 5, 6 *Authorized Teaching Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C*

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.



Pulleys

Series: Simple Machines for Beginners

Grade 4
Topic 4B

Support

Copyright 1993

Publisher Coronet

Distributor Prentice Hall Ginn Publishing Co.

Supplier ACCESS—The Education Station/Regional Resource and Urban Media Centres

BPN 372301

\$17.25

Straightforward diagrams of the individual components of a pulley are combined with humorous practical applications of fixed and movable pulleys. Imperial units are used in explanations of force advantage.

Note: The cost includes duplicating charges only. Handling charges and GST are extra. After duplication rights have expired, on August 31, 1998 this title will remain available for preview from the Regional Resource and Urban Media Centres.



Using Simple Machines

Series: Simple Machines

Grade 4
Topics 4B, 4C

Support

Copyright 1986

Publisher Walt Disney Productions

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Order No. 322016

Est. Price \$116.75

Donny and Melissa learn how simple machines can be used to move things that they would otherwise not be able to lift. A lever, an inclined plane and a pulley system are used to lift a heavy object in an artist's studio. Donny and Melissa apply what they have learned to make a Rube Goldberg type contraption that combines all three simple machines.



What Should I Use?: The Technology of Simple Machines (Canadian Ed.) (Small Book, Big Book)

Series: Realization

Grade 4
Topics 4B, 4C

Support

Author(s) Drew, D.

Title

Order No. Est. Price

What Should I Use?: The Technology of Simple Machines (Canadian Ed.) (Small Book) (4 copies per package)

300442 \$37.35

What Should I Use?: The Technology of Simple Machines (Canadian Ed.) (Big Book)

300450 \$50.15

Copyright/ISBN 1992 / 0731206282 (Package of 4 Small Books)
073120624X (Big Book)

Publisher Prentice Hall

Distributor Prentice Hall Ginn Canada

Supplier LRDC

An inquiry context and numerous illustrations introduce students to the nature and function of simple machines. This resource includes double-page spreads on wedges, simple levers, compound levers, wheels and axles, screws, gears and not-so-simple machines.

GRADE 4 – TOPIC B



Wheels

Series: *Starting Technology*

Grade 4

Topics 4B, 4C

Author(s) Williams, J.

Copyright/ISBN 1990 / 0750202718

Publisher Wayland Publishers Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier Out-of-Print

The functions of wheels and rollers and their application in a variety of practical devices is described and illustrated in this colourful resource. Suggested activities using simple household and school materials are clearly outlined in numbered steps and illustrations.



Wheels at Work

Series: *How Things Work*

Grade 4

Topics 4B, 4C

Author(s) Dunn, A.

Copyright/ISBN 1992 / 0750202270

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 300096

Est. Price \$18.40

Wheels, axles, pulleys, gears and cams are shown in a variety of applications in this colourful, easy-to-read book. Simplified cut-away drawings illustrate the key working parts of a variety of devices, including elevators, window blinds, sewing machines, salad spinners and steering wheels. The operation of these devices and the principles behind them are explained.



Wheels at Work: Building and Experimenting with Models of Machines

Grade 4

Topics 4B, 4C

Author(s) Zubrowski, B.

Copyright/ISBN 1986 / 0688063497

Publisher William Morrow and Co.

Distributor Gage Educational Publishing

Supplier LRDC

Order No. 297524

Est. Price \$8.20

Concepts about simple machines, including the pulley, gear, windlass, water wheel, windmill and paddle wheel, are briefly introduced, applied and extended through practical activities. The historical context of each machine and the principles of operation are explained. As well, students are guided, step by step, in construction of models using simple household materials. Construction methods and activities are illustrated by line drawings.

GRADE 4 – TOPIC C



Cat on the Chimney, The: Solving Problems with Technology (Canadian Ed.) (Big Book, Small Book)

Series: *Realization*

Grades 3, 4
Topics 3B, 4C

Support

Author(s) Drew, D.

Title	Order No.	Est. Price
Cat on the Chimney, The: Solving Problems with Technology (Canadian Ed.) (Big Book)	300476	\$50.15
Cat on the Chimney, The: Solving Problems with Technology (Canadian Ed.) (Package of 4 Small Books)	300468	\$37.35

Copyright/ISBN 1992 / 0731206215 (Big Book)

Publisher Prentice Hall

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Using an identified set of materials, a series of challenging problems are posed for students to solve. Each problem is described in two-page spreads, and includes finding a way to get a cat down from a chimney, retrieving a key from a drain and retrieving a helium-filled balloon from a ceiling. Activities are open-ended, leading to multiple solutions. Students can describe their solutions or demonstrate them with models; they need not do the real thing.



Craft, Design and Technology

Series: *Copy Kits*

Grade 4
Topics 4B, 4C

Authorized Teaching

Author(s) Bennett, J.; Smith, R.

Copyright/ISBN 1989 / 0706246381

Publisher Ward Lock Educational

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292722

Est. Price \$39.15

This resource includes a teacher guide with 46 activity outlines accompanied by 48 leaflets that serve as blackline masters. Each activity outline consists of objectives, materials, an activity description and suggested age range. The first 13 activities focus on materials, adhesives and design of simple containers. These are followed by 22 activities on various vehicles and devices that move and 11 one-of-a-kind constructions.



Design & Make Activities: Grade 4: Devices that Move

Grade 4
Topics 4B, 4C

Authorized Teaching

Copyright 1994

Publisher Technology Teaching Systems

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304163

Est. Price \$35.35

This teacher guide provides background information and learning activities to support an instructional unit on vehicles and devices that move. An introductory section on the safe use of tools precedes four sections that outline specific activities on levers and linkages, simple machines, and building a variety of moving devices. All activities and techniques are illustrated with line drawings.



Design and Technology 5-12

Series: *Science Around Me*

Grades 1, 2, 3, 4
Topics 1C, 2B, 3B, 4C

Authorized Teaching

Author(s) Williams, P.; Jinks, D.

Copyright/ISBN 1985 / 1850000492

Publisher The Falmer Press

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292433

Est. Price \$34.05

The methods and materials for teaching design technology to elementary students are described and illustrated, using examples of student drawings and photographs of student work. Set in the context of the National Curriculum of Great Britain, the purpose and meaning of design technology are explained. The introductory section is followed by examples of student construction, including six case studies on such topics as windmills, the Roman chariot and car design.

GRADE 4 – TOPIC C



Design & Technology System

Series: *Active Learning*

Grades 3, 4
Topics 3B, 4C

Authorized Teaching

Author(s) Moore, N.

Copyright 1994

Publisher Exclusive Educational Products

Distributor Exclusive Educational Products

Supplier LRDC

Order No. 300020

Est. Price \$42.40

This resource book of activity outlines and blackline masters is designed for use with a set of hands-on materials—as supplied by the publisher, or equivalent materials available from other sources. Organized in a 3-ring binder format, it has sections on the safe use of tools and equipment, sources of motion, setting objectives, and descriptions of the design process. The largest section has 25 challenge activities, consisting of reproduction masters and an accompanying page of teacher notes. Design tasks include both fixed structures and a variety of devices with moving parts. Supplementary sections include a set of theme ideas, an illustrated glossary and additional masters for use by students in planning and recording their activities.



Design and Technology through Problem Solving: A Resource Book for Teachers in Junior and Middle Schools

Grades 3, 4, 5
Topics 3B, 4C, 5B

Authorized Teaching

Author(s) Johnsey, R.

Copyright/ISBN 1990 / 075010032X

Publisher Simon & Schuster

Distributor Bacon and Hughes

Supplier LRDC

Order No. 293829

Est. Price \$31.35

This resource provides an introduction to teaching and learning about technology and problem solving, and provides practical suggestions for development of student projects. Project ideas are grouped under: balancing models, obstacle games, paddle boats, wheels and levers, propeller-driven vehicles, electric switches, folding chairs, and children's problems. Suggestions on tool selection and use are also provided.



Design Technology: Children's Engineering

Series: *Science Around Me*

Grades 1, 3, 4, 5
Topics 1C, 3B, 4C, 5B

Authorized Teaching

Author(s) Dunn, S.; Larson, R.

Copyright/ISBN 1990 / 1850005907

Publisher The Falmer Press

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292425

Est. Price \$36.75

The philosophy and methods for learning about technology are described in a clear, straightforward manner and are illustrated with examples of student work. Samples include student writing and drawings, photographs of student work, and vignettes of classroom work. Learning and instructional strategies are described.



Designing and Making: Towards Technology: Age 7-11

Series: *Brain Waves*

Grades 3, 4, 5
Topics 3B, 4C, 5B

Authorized Teaching

Author(s) Baker, E. et al.

Copyright/ISBN 1992 / 1852760397

Publisher Folens Publishers

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292706

Est. Price \$14.50

This coilbound teacher resource provides reproduction sheets and teaching suggestions for 24 design and make activities. Each activity sets a challenge task for students and includes questions and things to think about to guide students in developing and designing. A set of skill cards show examples of materials and techniques used in related projects. Activities include a Ferris wheel, systems for moving materials, a swing, a moving message and different kinds of toys.

GRADE 4 – TOPIC C



Early Start to Technology from Science, An

Grades 3, 4
Topics 3B, 3C, 4C

Authorized Teaching

Author(s) Richards, R.

Copyright/ISBN 1990 / 0750100338

Publisher Simon & Schuster Young Books

Distributor Bacon and Hughes

Supplier LRDC

Order No. 300525

Est. Price \$33.55

This idea book illustrates a variety of materials and construction activities. Most of the book takes the form of a picture book with accompanying captions and commentary. Activities are open-ended. The book is organized in five main sections: structures, on the move, materials, kitchen technology and "other things."



Fairgrounds: Rotating Structures (Book Three)

Series: *Tritech*

Grade 4
Topic 4C

Authorized Teaching

Author(s) Cole, M.; Darby, T.

Copyright/ISBN 1993 / 087541070X

Publisher Southgate Publishers

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298291

Est. Price \$30.20

This teacher resource book, with accompanying plastic-laminated construction sheets, provides a set of design techniques and example projects for studying rotating structures. Construction materials are limited to cardboard wheels, popsicle sticks, dowelling, glue and tape. The introductory section shows techniques for assembly of structures. Following sections show how the basic structures can be extended and elaborated, including addition of a motor and swinging chairs.



Folens Technology in Action: Unit Two: Key Stage 2: Year 3 Juniors (Age 7-8)

Series: *Folens Technology in Action*

Grades 3, 4
Topics 3B, 4C

Authorized Teaching

Author(s) Harrison, P.; Ryan, C.

Copyright/ISBN 1990 / 1852761164

Publisher Folens Publishers

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298259

Est. Price \$112.00

This series is a theme-based program that enables teachers to integrate technology with other curriculum areas. Children develop technological skills through a broad range of activities and projects. The themes of movement, life forces, structures and leisure run throughout the program.



Hands-On Technology

Grades 1, 2, 3, 4
Topics 1C, 2B, 3B, 4C

Authorized Teaching

Author(s) Idle, I.K.

Copyright/ISBN 1991 / 0748712968

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292714

Est. Price \$33.55

This teacher resource provides a general introduction to the methods and materials for teaching technology topics to young children. Set in the context of the National Curriculum of Great Britain, this resource shows the kinds of learnings that are appropriate for the younger child and provides examples of activities and actual student work.

GRADE 4 – TOPIC C



Machines

Series: *Make It Work!*

Grade 4
Topics 4B, 4C

Support

Author(s) Baker, W.; Haslam, A.

Copyright/ISBN 1995 / 0590244019

Publisher Scholastic Canada Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 314865

Est. Price \$7.75

Activities for constructing and testing many kinds of machines are clearly outlined. Colour photographs and step by step instructions are combined with straightforward explanations of the principles involved. Machines shown include catapults, lever systems, gears, screws, rockets, clocks and rubber band powered devices.



Machines

Series: *Starting Technology*

Grade 4
Topics 4B, 4C

Support

Author(s) Williams, J.

Copyright/ISBN 1991 / 0750200251

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293100

Est. Price \$18.40

A variety of applications of simple machines are explored through clearly explained and illustrated construction activities. Illustrations include colour drawings of student constructed models and accompanying photographs that allow students to make direct comparisons between the model and the real thing.



Mathematics, Science & Technology: Volume 1: Making Sense of Technology

Series: *Active Learning*

Grade 4
Topics 4B, 4C

Authorized Teaching

Copyright 1993

Publisher Exclusive Educational Products

Distributor Exclusive Educational Products

Supplier LRDC

Order No. 292152

Est. Price \$37.10

This resource of activity outlines and blackline masters is designed for use with a hands-on materials kit—as supplied by the publisher, or equivalent materials available from other sources. An introductory section outlines learner expectations, teaching strategies and organizational suggestions. This is followed by three sections of activity outlines: the first on techniques for constructing and using gears, levers and pulleys; the second on applied activities; and the third on challenges. Each activity in these sections is described on a reproducible master for students, with teacher notes on the back. Supplementary sections include a set of theme ideas, an illustrated glossary and additional masters for use by students to plan and record their activities.



101 Science Tricks: Fun Experiments with Science and Maths

Grades 4, 6
Topics 4C, 4D, 6A

Support

Author(s) Richards, R.

Copyright/ISBN 1990 / 0750005564

Publisher Simon & Schuster Young Books

Distributor Prentice Hall Ginn Publishing Co.

Supplier Out-of-Print

Over 70 mini-projects are outlined in this colourful resource book for students and teachers. Projects are organized in three main areas: optical devices, including periscopes, kaleidoscopes and flick books; devices that move, such as airplanes, helicopters and dragsters; and a variety of constructions made from paper. Activities are outlined in point form and supported by numerous illustrations that are integrated with the text.

Note: April 1998 LRDC prices are quoted.

GRADE 4 – TOPIC C



Teaching Techniques for Elementary Technology

Series: *Design & Make*

Grades 2, 3, 4, 5, 6 *Authorized Teaching Topics 2B, 3B, 4C, 5B, 6B*

Copyright/ISBN 1994 / 1884461050

Publisher NES Arnold Educational

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304139

Est. Price \$27.55

This teacher resource book outlines construction techniques and student projects, using wood, cardboard, elastic bands and a variety of recycled materials. Activities include various fixed and moving structures, such as boats, airplanes, vehicles and devices that use electric motors. Construction suggestions and simple line drawings are provided for each activity.



Techniques for Primary Design and Technology

Series: *Rainbow Technology*

Grades 3, 4, 5 *Authorized Teaching Topics 3B, 4C, 5B*

Author(s) Gibson, C. et al.

Copyright/ISBN 1991 / 0748711236

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298267

Est. Price \$33.55

This illustrated how-to book shows a variety of techniques that can be used for construction and problem-solving tasks. An introductory section gives general suggestions on materials and applications. This is followed by separate sections on such topics as electricity, structures, going round and round, making noises, motors, releasing, and making adjustments.



Technology IDEAS (Integrating Design Education Activities for Students): A Teaching Resource Book

Grades 3, 4, 5, 6 *Authorized Teaching Topics 3B, 4C, 5B, 6B*

Author(s) Reynolds, B.; Corney, B.; Dale, N.

Copyright/ISBN 1993 / 0029541549

Publisher Maxwell MacMillan Canada

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

Order No. 291881

Est. Price \$39.50

This resource book provides teaching suggestions and blackline masters for 29 challenge activities covering a wide range of technologies. Challenges involve building structures and devices that will perform specific tasks. General suggestions for planning, organizing and using tools are also provided.



Technology: Key Stage 1

Series: *Blueprints*

Grades 3, 4 *Authorized Teaching Topics 3B, 4C*

Author(s) Gadd, T.; Morton, D.

Copyright/ISBN 1992 / 0748713573

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298275

Est. Price \$33.55

This resource book provides an illustrated activity bank of ideas for learning about technology. Organized into five themes, each section provides a general map for learning activities, followed by pictures of models for students to construct. Themes developed in this resource are: movement, changes, taking care of things, structures, and out and about. One section of the resource outlines suggested activities based on children's stories. There is also a section on organizing resources and student records, and there is a set of reproducible challenge activities.

Note: April 1998 LRDC prices are quoted.

GRADE 4 - TOPIC C



Technology: Key Stage 2

Series: Blueprints

Grades 3, 4
Topics 3B, 4C

Authorized Teaching

Author(s) Gadd, T.; Morton, D.

Copyright/ISBN 1992 / 0748714952

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298283

Est. Price \$33.55

This resource book provides a bank of activity ideas and projects for learning about technology. All activities are illustrated with line drawings and supported by notes on construction techniques. Some activities involve construction of stationary structures but most incorporate moving parts involving wheels, pulleys and levers. The guide includes: ideas for using stories as starting points for projects, a section on challenge activities, sample planning sheets for students and suggestions for keeping records of student progress.



Toy Designer: Technology and Energy (Canadian Ed.) (Big Book, Small Book)

Series: Realization

Grades 2, 4
Topics 2B, 4C

Support

Author(s) Drew, D.

Title	Order No.	Est. Price
Toy Designer: Technology and Energy (Canadian Ed.) (Big Book)	300509	\$50.15

Toy Designer: Technology and Energy (Canadian Ed.) (Small Book) (4 copies per package)	300492	\$37.35
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Copyright/ISBN 1993 / 0731206592 (Big Book)
0731206630 (Package of 4 Small Books)

Publisher Prentice Hall

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

This paperback outlines five construction projects, three involving different forms of watercrafts. Colour illustrations are extensive and provide clear, step by step guidance for successfully completing each project.



Using Simple Machines

Series: Simple Machines

Grade 4
Topics 4B, 4C

Support

Copyright 1986

Publisher Walt Disney Productions

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Order No. 322016

Est. Price \$116.75

Donny and Melissa learn how simple machines can be used to move things that they would otherwise not be able to lift. A lever, an inclined plane and a pulley system are used to lift a heavy object in an artist's studio. Donny and Melissa apply what they have learned to make a Rube Goldberg type contraption that combines all three simple machines.



Vehicles: Moving Structures (Book One)

Series: Tritech

Grade 4
Topic 4C

Authorized Teaching

Author(s) Cole, M.; Darby, T.

Copyright/ISBN 1991 / 1857410106

Publisher Southgate Publishers

Distributor Bacon and Hughes

Supplier LRDC

Order No. 304262

Est. Price \$30.20

This teacher resource book, with accompanying plastic-laminated construction sheets, provides a set of design techniques and example projects for studying moving structures. Construction materials are limited to cardboard wheels, popsicle sticks, dowelling, glue and tape. The introductory section shows techniques for assembly of structures. Following sections show a variety of vehicles that can be built by elaborating and extending an initial design.

BEST COPY AVAILABLE

GRADE 4 – TOPIC C



What Should I Use?: The Technology of Simple Machines (Canadian Ed.) (Small Book, Big Book)

Series: *Realization*

Grade 4

Topics 4B, 4C

Support

Author(s) Drew, D.

Title	Order No.	Est. Price
What Should I Use?: The Technology of Simple Machines (Canadian Ed.) (Small Book) (4 copies per package)	300442	\$37.35
What Should I Use?: The Technology of Simple Machines (Canadian Ed.) (Big Book)	300450	\$50.15

Copyright/ISBN 1992 / 0731206282 (Package of 4 Small Books)
073120624X (Big Book)

Publisher Prentice Hall

Distributor Prentice Hall Ginn Canada

Supplier LRDC

An inquiry context and numerous illustrations introduce students to the nature and function of simple machines. This resource includes double-page spreads on wedges, simple levers, compound levers, wheels and axles, screws, gears and not-so-simple machines.



Wheels

Series: *Starting Technology*

Grade 4

Topics 4B, 4C

Support

Author(s) Williams, J.

Copyright/ISBN 1990 / 0750202718

Publisher Wayland Publishers Ltd.

Distributor Scholastic-TAB Publications Ltd.

Supplier Out-of-Print

The functions of wheels and rollers and their application in a variety of practical devices is described and illustrated in this colourful resource. Suggested activities using simple household and school materials are clearly outlined in numbered steps and illustrations.



Wheels at Work

Series: *How Things Work*

Grade 4

Topics 4B, 4C

Support

Author(s) Dunn, A.

Copyright/ISBN 1992 / 0750202270

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 300096

Est. Price \$18.40

Wheels, axles, pulleys, gears and cams are shown in a variety of applications in this colourful, easy-to-read book. Simplified cut-away drawings illustrate the key working parts of a variety of devices, including elevators, window blinds, sewing machines, salad spinners and steering wheels. The operation of these devices and the principles behind them are explained.



Wheels at Work: Building and Experimenting with Models of Machines

Grade 4

Topics 4B, 4C

Support

Author(s) Zubrowski, B.

Copyright/ISBN 1986 / 0688063497

Publisher William Morrow and Co.

Distributor Gage Educational Publishing

Supplier LRDC

Order No. 297524

Est. Price \$8.20

Concepts about simple machines, including the pulley, gear, windlass, water wheel, windmill and paddle wheel, are briefly introduced, applied and extended through practical activities. The historical context of each machine and the principles of operation are explained. As well, students are guided, step by step, in construction of models using simple household materials. Construction methods and activities are illustrated by line drawings.

Note: April 1998 LRDC prices are quoted.

GRADE 4 – TOPIC D



Art and Science Connection, The: Hands-On Activities for Intermediate Students

Grades 2, 4, 5, 6 *Authorized Teaching*
Topics 2A, 4A, 4D, 5C, 6D

Author(s) Tolley, K.

Copyright/ISBN 1994 / 0201455455

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292285

Est. Price \$35.45

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.



Art and Science Connection, The: Hands-On Activities for Primary Students

Grades 1, 4 *Authorized Teaching*
Topics 1A, 1D, 1E, 4A, 4D, 4E

Author(s) Tolley, K.

Copyright/ISBN 1993 / 0201455447

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 298069

Est. Price \$35.45

This guide is a resource for the classroom teacher, or specialist, interested in integrating art and science. There are 30 lessons, each with clear suggestions for organizing and developing the activity, including sections on getting ready, observing, comparing and describing, drawing conclusions, and creating. Blackline masters are provided.



Exploring Light

Series: *Exploring Science*

Grade 4

Topic 4D

Support

Author(s) Catherall, E.

Copyright/ISBN 1989 / 0750202653

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 292996

Est. Price \$11.50

The nature of light, the way things appear and the principles of simple optical devices are explained and illustrated. Ideas in the text are developed through clearly outlined activities. Topics include light and glass, reflections, mirrors, refraction, prisms and lenses, eyes, and optical illusions.



Light (2nd Ed.)

Series: *Matter and Energy for Beginners*

Grade 4

Topic 4D

Support

Copyright 1990

Publisher Bill Walker Productions

Distributor Magic Lantern Communications Ltd.

Supplier LRDC

Order No. 312687

Est. Price \$116.75

This 14-minute video shows a variety of ways to investigate light and shadows. Investigator Alligator shows that light goes through some materials, but is blocked by others to form shadows. He also discovers that light can affect materials in different ways.

GRADE 4 – TOPIC D



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: *Nelson Science*

Grades 3, 4, 5, 6

Authorized Teaching

Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.



101 Science Tricks: Fun Experiments with Science and Maths

Grades 4, 6

Support

Topics 4C, 4D, 6A

Author(s) Richards, R.

Copyright/ISBN 1990 / 0750005564

Publisher Simon & Schuster Young Books

Distributor Prentice Hall Ginn Publishing Co.

Supplier Out-of-Print

Over 70 mini-projects are outlined in this colourful resource book for students and teachers. Projects are organized in three main areas: optical devices, including periscopes, kaleidoscopes and flick books; devices that move, such as airplanes, helicopters and dragsters; and a variety of constructions made from paper. Activities are outlined in point form and supported by numerous illustrations that are integrated with the text.

GRADE 4 – TOPIC E



**Art and Science Connection, The:
Hands-On Activities for Primary
Students**

Grades 1, 4 *Authorized Teaching*
Topics 1A, 1D, 1E, 4A, 4D, 4E

Author(s) Tolley, K.

Copyright/ISBN 1993 / 0201455447

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 298069

Est. Price \$35.45

This guide is a resource for the classroom teacher, or specialist, interested in integrating art and science. There are 30 lessons, each with clear suggestions for organizing and developing the activity, including sections on getting ready, observing, comparing and describing, drawing conclusions, and creating. Blackline masters are provided.



**Bottle Biology: An Idea Book for
Exploring the World through Plastic
Bottles and Other Recyclable Materials**

Grades 2, 3, 4 *Authorized Teaching*
Topics 2E, 3A, 4A, 4E

Author(s) Ingram, M.

Copyright/ISBN 1993 / 080438601X

Publisher Kendall/Hunt Publishing

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

Order No. 304816

Est. Price \$30.95

This coilbound idea book shows a variety of ways to use plastic bottles and other recyclable materials for studying soil, decomposition and a variety of small creatures. Background information, activity suggestions, as well as specific directions for the preparation and use of materials are included.



**Flowers and Fruit (includes: Flowers;
From Flowers to Fruit; Fruit)**

Series: *Sunshine Science*

Grade 4

Support

Topic 4 E

Author(s) Biddulph, F.; Biddulph, J.

Title	Order No.	Est. Price
Flowers (6 copies per package)	301648	\$37.35
From Flowers to Fruit (6 copies per package)	301656	\$37.35
Fruit (6 copies per package)	301664	\$37.35

Copyright 1995

Publisher Applecross Ltd.

Distributor Prentice Hall Ginn Canada

Supplier LRDC

This series of three booklets provides a colourful introduction to flowers and fruit structures and their functions in plant reproduction. Colour photographs illustrate the diverse forms that flowers can take and describe the relationships among flowers, insects, birds and other small animals. The various forms that fruit can take are also shown. A glossary and index are included in each booklet.



From Seed to Plant: Teacher's Guide

Series: *Delta Science Modules*

Grade 4

Authorized Teaching

Topic 4 E

Copyright/ISBN 1988 / 0875047114

Publisher Delta Education

Distributor Delta Education

Supplier LRDC

Order No. 299934

Est. Price \$18.80

Nine activities for the study of seeds and growing plants are outlined in this teacher's guide. Activities include observing and classifying seeds, planting seeds, and observing and measuring plant growth and plant parts. Each activity includes a statement of objectives, materials list, background information, teaching suggestions and ideas for extending concepts. Blackline masters, a glossary and suggestions for evaluation are also included.

BEST COPY AVAILABLE

GRADE 4 – TOPIC E



Grow-Lab: Activities for Growing Minds: Teacher's Guide

**Grade 4
Topic 4 E**

Authorized Teaching

Copyright/ISBN 1990 / 091587332X

Publisher National Gardening Association

Distributor National Gardening Association

Supplier LRDC

Order No. 306565

Est. Price \$35.75

This resource book provides teachers with background information and plant study activities that are coded for the grade ranges K-2, 3-5 and 6-8. All activities are clearly outlined and illustrated. A set of reproduction masters and an annotated list of additional resources are included.



Growing Classroom, The: Garden-Based Science

**Grade 4
Topic 4 E**

Authorized Teaching

Author(s) Jaffe, R.; Appel, G.

Copyright/ISBN 1990 / 020121539X

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292334

Est. Price \$47.95

This teacher resource book outlines over 100 activities on topics directly and indirectly related to growing plants. The resource is organized in four sections. The first section provides a general introduction to the methods and materials of plant studies; the second section outlines 14 science units; the third section outlines three nutrition units; and the final section includes blackline masters, materials lists and an English/Spanish vocabulary list. Each activity in the science and nutrition units consists of an overview description, objectives, teacher background, materials preparations and specific steps in developing the activity. Some black and white photographs and simple line drawings are included.



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: *Nelson Science*

Grades 3, 4, 5, 6

Authorized Teaching

Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.



Plant Growth and Development: Student Activity Book

Series: *Science and Technology for Children*

**Grade 4
Topic 4 E**

Support

Copyright/ISBN 1991 / 0892786345

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 300062

Est. Price \$7.10

Students observe the growth and development of a mustard seed plant from a seed until it produces seeds of its own, 41 days later. Working in groups, students germinate the seeds, thin and transplant seedlings, pollinate flowers, and harvest mature seeds. During the process, they observe, measure, record, draw, graph and construct models.

GRADE 4 – TOPIC E



Plant Growth and Development: Teacher's Guide

Series: *Science and Technology for Children*

Grade 4 *Authorized Teaching*
Topic 4 E

Copyright/ISBN 1991 / 0892786337

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293176

Est. Price \$44.65

Students observe the growth and development of a mustard seed plant from a seed until it produces seeds of its own, 41 days later. Working in groups, students germinate the seeds, thin and transplant seedlings, pollinate flowers and harvest mature seeds. During the process, they observe, measure, record, draw, graph and construct models. This teacher's guide may be used in conjunction with the accompanying student activity book but provides sufficient information to be used on its own.

Note: April 1998 LRDC prices are quoted.

GRADE 5 SERIES

EXPLORATIONS IN SCIENCE

Author(s): Campbell, S. et al.

Publisher/Distributor: Addison-Wesley Publishers

This series is an activity-based program that encourages students to get involved in science by exploring and experimenting with materials while working in a variety of groupings and settings. The program is organized in topics of study around five themes that provide a framework for science concepts and principles. The teacher's resource book has blackline masters; literature links; and extensive strategies for planning, implementing and exploring.

TEACHER RESOURCES

SUPPLIER: LRDC



Explorations in Science: Level Five: Assessment Authorized Teaching Handbook

Copyright/ISBN 1993 / 020160681X

Order No.	Est. Price
291493	\$27.10



Explorations in Science: Level Five: Teacher's Resource Book (Modular Ed.) (includes Alberta Implementation Guide) *Authorized Teaching*

Copyright/ISBN 1995 / 020188187X

291500	\$212.60
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STUDENT RESOURCES

SUPPLIER: LRDC



Explore!: A Book of Science: Level Five Student Resource Book *Support*

Copyright/ISBN 1993 / 0201560682

Order No.	Est. Price
293324	\$21.10

INNOVATIONS IN SCIENCE

Author(s): Peturson, R.; McAllister, N.

Publisher/Distributor: Holt, Rinehart and Winston/Harcourt Brace & Co.

This series supports student-centred, activity-based science. It is organized around themes and topics that provide science-technology-society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

TEACHER RESOURCES

SUPPLIER: LRDC



Innovations in Science: Level 5: Teacher Resource Package (Alberta Edition) *Authorized Teaching*

Copyright/ISBN 1995 / 077470179X

Order No.	Est. Price
292756	\$199.50

STUDENT RESOURCES

SUPPLIER: LRDC



Innovations in Science: Level 5 (Student Book) (Alberta Edition) *Support*

Copyright/ISBN 1996 / 0774701781

292780	\$33.95
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Note: April 1998 LRDC prices are quoted.

GRADE 5 SERIES

LET'S DO SCIENCE

Publisher/Distributor: Science Alberta Foundation

This six-volume teacher guide provides a ready reference for planning and teaching the Alberta elementary science program. It provides a general introduction to the program and topic by topic outlines that include background information, suggested activities for teaching and learning, and specific references to student and teacher resources for each activity.

TEACHER RESOURCES

SUPPLIER: LRDC



**Let's Do Science: Level 5: A Time-Saving,
Teacher-Friendly Guide to Alberta's Elementary
Science Curriculum**

Copyright/ISBN 1995 / 1896618057

Authorized Teaching

Order No.	Est. Price
295635	\$29.90



Let's Do Science: Levels 1 - 6 (Complete Set)

Authorized Teaching

295586	\$169.55
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GRADE 5 – TOPIC A



Design & Make Activities: Grade 5: Electricity

Grade 5 *Authorized Teaching*
Topics 5A, 5B

Copyright 1994

Publisher Technology Teaching Systems

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304147

Est. Price \$26.00

This teacher guide provides information on construction techniques and learning activities to support an instructional unit on electricity. All activities are clearly outlined and illustrated with line drawings.



Electric Circuits: Student Activity Book

Series: *Science and Technology for Children*

Grade 5 *Support*
Topics 5A, 5B

Copyright 1991

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293217

Est. Price \$7.10

This student activity book provides activity outlines and diagrams that supplement the teacher's guide and assist students in working independently.



Electric Circuits: Teacher's Guide

Series: *Science and Technology for Children*

Grade 5 *Authorized Teaching*
Topics 5A, 5B

Copyright 1991

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293209

Est. Price \$34.95

This teacher guide outlines 16 activities for the study of electric circuits, based on student investigations with batteries, bulbs and wires. Initial work in finding ways to make a bulb light is extended through a series of investigations in which students try different materials and ways of assembling materials, leading from simple circuits to various series and parallel circuits. All activities are clearly laid out in a format that includes objectives, background information, materials, preparations, instructional procedures, and suggestions for extension and evaluation. Appendices provide sample assessment tests, a student record chart, tips on the use of materials and troubleshooting problems, and a bibliography.



Electrical Connections

Grade 5 *Authorized Teaching*
Topics 5A, 5B

Author(s) Allen, M. et al.

Copyright/ISBN 1991 / 1881431282

Publisher Aims Education Foundation

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 292417

Est. Price \$30.05

Twenty-two classroom activities for studying electric circuits and electrical applications are outlined in this teacher resource. Each activity outline includes an introductory statement, key questions, background information, management suggestions, procedures and extensions. Up to five blackline masters are provided with each lesson.



Electrical Energy (Student Book)

Series: *Science Turns Minds On*

Grade 5 *Support*
Topics 5A, 5B

Author(s) Atwater, M. et al.

Copyright/ISBN 1993 / 0022742689

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson Ltd.

Supplier LRDC

Order No. 304501

Est. Price \$11.45

An 80-page, softcover, brightly illustrated student book provides information and activities for the study of electricity. Topics include static electricity, electric circuits, electromagnets and sources of electrical power.



Electrical Energy: Teacher Assessment Guide: Teacher Guide and Blackline Masters

Series: *Science Turns Minds On*

Grade 5 *Authorized Teaching*
Topics 5A, 5B

Copyright/ISBN 1993 / 0022744592

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson Ltd.

Supplier LRDC

Order No. 304527

Est. Price \$21.10

Blackline masters for assessment are provided in this resource.

Note: April 1998 LRDC prices are quoted.

GRADE 5 – TOPIC A



Electrical Energy: Teacher's Planning Guide

Series: *Science Turns Minds On*

Grade 5 *Authorized Teaching*
Topics 5A, 5B

Author(s) Atwater, M. et al.

Copyright/ISBN 1993 / 002274312X

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson Ltd.

Supplier LRDC

Order No. 304519

Est. Price \$85.00

This teacher planning guide provides a comprehensive introduction and analysis of the student book, including suggestions for developing critical thinking, follow-up activities, extensions, curriculum links and suggestions for assessment.



Electrically Charged: The Complete Guide to Teaching Elementary Electricity (Teacher Resource Book)

Series: *Active Learning Series*

Grade 5 *Authorized Teaching*
Topic 5A

Author(s) Moore, N.

Copyright 1994

Publisher Exclusive Educational Products

Distributor Exclusive Educational Products

Supplier LRDC

Order No. 310285

Est. Price \$37.10

Techniques for constructing simple circuits and applying student knowledge to a variety of projects are supported through this resource binder. Background information for teachers and suggested materials are outlined in a general section that introduces an extensive set of one-page activity outlines. Activities are open-ended and provide opportunity for individual and cooperative work.



Electricity

Series: *Starting Technology*

Grade 5 *Support*
Topics 5A, 5B

Author(s) Williams, J.

Copyright/ISBN 1991 / 075020169X

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293069

Est. Price \$17.90

A variety of electrical devices and technologies are illustrated and explored through construction activities. Activities are clearly explained in numbered steps and illustrated in coloured drawings. Switches, batteries, electromagnets, printed circuits and electrically-powered vehicles are among the technologies covered in this volume.



Electricity and Magnetism

Series: *Science Turns Minds On*

Grade 5 *Support*
Topic 5A

Author(s) Atwater, M. et al.

Copyright/ISBN 1993 / 0022742786

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson Ltd.

Supplier LRDC

Order No. 301870

Est. Price \$13.20

Principles of electricity and how electrical devices work are presented in this illustrated student resource. Organized in seven lessons, supplemented by a unit introduction and wrap-up, each lesson presents one or more concepts, an activity and one or more applications. Activities are illustrated in colour and include sections on what you need, what to do, what happened, and what now. An index and glossary are provided.

GRADE 5 – TOPIC A



Elementary Technology

Series: *Techniques for Technology*

Grades 3, 4, 5 *Authorized Teaching*

Topics 3B, 3C, 4A, 4B, 5A, 5B

Copyright/ISBN 1994 / 1899413103

Publisher Technology Teaching Systems

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 304171

Est. Price \$24.90

This resource book on materials, tools and techniques provides a set of captioned pictures and explanations to guide teachers and students in construction activities. Black and white illustrations show a wide range of materials and techniques in such areas as wooden structures, axles, motors, sensors and switches, as well as example applications in buggies, bridges and barriers. Several challenging design and make activities are included.



How People Use Electricity: How Electric Energy Works: ScienceMats

Series: *Science Place*

Grade 5

Authorized Teaching

Topics 5A, 5B

Copyright/ISBN 1995 / 0590277022

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301127

Est. Price \$26.55

The science mats are blackline masters that can be used for setting tasks, recording results and evaluating student progress.



How People Use Electricity: How Electric Energy Works: A Student's Map to Exploration

Series: *Science Place*

Grade 5

Support

Topics 5A, 5B

Copyright/ISBN 1995 / 0590276980

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier Out-of-Print

This resource provides background information, questions and specific tasks for students.



How People Use Electricity: How Electric Energy Works: A Teacher's Map to Exploration

Series: *Science Place*

Grade 5

Authorized Teaching

Topics 5A, 5B

Copyright/ISBN 1995 / 0590276999

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301135

Est. Price \$42.45

This teacher guide, together with the science mats, outlines a sequence of 18 lessons with activities that explore the nature of electricity and magnetism and their application to a variety of technological devices. Lesson outlines include objectives, preparation, content background, suggestions for developing the lesson, extensions, options and evaluations.



Magnetism and Electricity: Teacher's Guide

Series: *Full Option Science System (FOSS)*

Grade 5

Authorized Teaching

Topic 5A

Copyright/ISBN 1992 / 0782600344

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Britannica Publications

Supplier LRDC

Order No. 299992

Est. Price \$190.20

Organized in a 3-ring binder format, this teacher guide provides an overview, activity outlines, assessment materials and duplication masters for a unit on magnetism and electricity. The overview section provides general background on the content of the unit and an introduction to the unit organization and instructional approach. This is followed by four activity folios, each including instructional objectives; a brief overview and background notes; materials list; methods for preparing and developing the activity; and an analysis of vocabulary, language and mathematics development within the activity. The four folios are on magnets, constructing circuits, constructing and testing electromagnets, and applications of electromagnets. The first of these folios may be used as a review at Grade 5 or in support of the Grade 2 program. Hands-on materials to support this unit are available from the publisher or may be obtained separately.

Note: April 1998 LRDC prices are quoted.

GRADE 5 – TOPIC A



Magnets and Motors: Student Activity Book

Series: *Science and Technology for Children*

Grade 5

Support

Topics 5A, 5B

Copyright 1991

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293225

Est. Price \$7.10

This student activity book provides activity outlines and diagrams that supplement the teacher's guide and assist students in working independently.



Magnets and Motors: Teacher's Guide

Series: *Science and Technology for Children*

Grade 5

Authorized Teaching

Topics 5A, 5B

Copyright 1991

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293233

Est. Price \$34.95

This teacher guide outlines activities for the study of magnets, electromagnets and motors. Each activity includes an overview, objectives, background information, materials, preparations, instructional procedures, and suggestions for extension and evaluation. Construction techniques are clearly illustrated with line drawings. Some blackline masters are provided. Appendices include sample assessment tests, a record sheet, a bibliography and materials lists.



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: *Nelson Science*

Grades 3, 4, 5, 6

Authorized Teaching

Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.

GRADE 5 – TOPIC B



Design & Make Activities: Grade 5: Electricity

Grade 5 *Authorized Teaching*
Topics 5A, 5B

Copyright 1994

Publisher Technology Teaching Systems

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304147

Est. Price \$26.00

This teacher guide provides information on construction techniques and learning activities to support an instructional unit on electricity. All activities are clearly outlined and illustrated with line drawings.



Design and Technology through Problem Solving: A Resource Book for Teachers in Junior and Middle Schools

Grades 3, 4, 5 *Authorized Teaching*
Topics 3B, 4C, 5B

Author(s) Johnsey, R.

Copyright/ISBN 1990 / 075010032X

Publisher Simon & Schuster

Distributor Bacon and Hughes

Supplier LRDC

Order No. 293829

Est. Price \$31.35

This resource provides an introduction to teaching and learning about technology and problem solving, and provides practical suggestions for development of student projects. Project ideas are grouped under: balancing models, obstacle games, paddle boats, wheels and levers, propeller-driven vehicles, electric switches, folding chairs, and children's problems. Suggestions on tool selection and use are also provided.



Design Technology: Children's Engineering

Series: *Science Around Me*
Grades 1, 3, 4, 5 *Authorized Teaching*
Topics 1C, 3B, 4C, 5B

Author(s) Dunn, S.; Larson, R.

Copyright/ISBN 1990 / 1850005907

Publisher The Falmer Press

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292425

Est. Price \$36.75

The philosophy and methods for learning about technology are described in a clear, straightforward manner and are illustrated with examples of student work. Samples include student writing and drawings, photographs of student work, and vignettes of classroom work. Learning and instructional strategies are described.



Designing and Making: Towards Technology: Age 7-11

Series: *Brain Waves*
Grades 3, 4, 5 *Authorized Teaching*
Topics 3B, 4C, 5B

Author(s) Baker, E. et al.

Copyright/ISBN 1992 / 1852760397

Publisher Folens Publishers

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292706

Est. Price \$14.50

This coilbound teacher resource provides reproduction sheets and teaching suggestions for 24 design and make activities. Each activity sets a challenge task for students and includes questions and things to think about to guide students in developing and designing. A set of skill cards show examples of materials and techniques used in related projects. Activities include a Ferris wheel, systems for moving materials, a swing, a moving message and different kinds of toys.

BEST COPY AVAILABLE

GRADE 5 – TOPIC B



Electric Circuits: Student Activity Book

Series: *Science and Technology for Children*

Grade 5

Support

Topics 5A, 5B

Copyright 1991

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293217

Est. Price \$7.10

This student activity book provides activity outlines and diagrams that supplement the teacher's guide and assist students in working independently.



Electric Circuits: Teacher's Guide

Series: *Science and Technology for Children*

Grade 5

Authorized Teaching

Topics 5A, 5B

Copyright 1991

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293209

Est. Price \$34.95

This teacher guide outlines 16 activities for the study of electric circuits, based on student investigations with batteries, bulbs and wires. Initial work in finding ways to make a bulb light is extended through a series of investigations in which students try different materials and ways of assembling materials, leading from simple circuits to various series and parallel circuits. All activities are clearly laid out in a format that includes objectives, background information, materials, preparations, instructional procedures, and suggestions for extension and evaluation. Appendices provide sample assessment tests, a student record chart, tips on the use of materials and troubleshooting problems, and a bibliography.



Electrical Connections

Grade 5

Authorized Teaching

Topics 5A, 5B

Author(s) Allen, M. et al.

Copyright/ISBN 1991 / 1881431282

Publisher Aims Education Foundation

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 292417

Est. Price \$30.05

Twenty-two classroom activities for studying electric circuits and electrical applications are outlined in this teacher resource. Each activity outline includes an introductory statement, key questions, background information, management suggestions, procedures and extensions. Up to five blackline masters are provided with each lesson.



Electrical Energy (Student Book)

Series: *Science Turns Minds On*

Grade 5

Support

Topics 5A, 5B

Author(s) Atwater, M. et al.

Copyright/ISBN 1993 / 0022742689

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson Ltd.

Supplier LRDC

Order No. 304501

Est. Price \$11.45

An 80-page, softcover, brightly illustrated student book provides information and activities for the study of electricity. Topics include static electricity, electric circuits, electromagnets and sources of electrical power.



Electrical Energy: Teacher Assessment Guide: Teacher Guide and Blackline Masters

Series: *Science Turns Minds On*

Grade 5

Authorized Teaching

Topics 5A, 5B

Copyright/ISBN 1993 / 0022744592

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson Ltd.

Supplier LRDC

Order No. 304527

Est. Price \$21.10

Blackline masters for assessment are provided in this resource.

Note: April 1998 LRDC prices are quoted.

GRADE 5 – TOPIC B



Electrical Energy: Teacher's Planning Guide

Series: *Science Turns Minds On*

Grade 5 *Authorized Teaching*
Topics 5A, 5B

Author(s) Atwater, M. et al.

Copyright/ISBN 1993 / 002274312X

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson Ltd.

Supplier LRDC

Order No. 304519

Est. Price \$85.00

This teacher planning guide provides a comprehensive introduction and analysis of the student book, including suggestions for developing critical thinking, follow-up activities, extensions, curriculum links and suggestions for assessment.



Electricity

Series: *Starting Technology*

Grade 5 *Support*
Topics 5A, 5B

Author(s) Williams, J.

Copyright/ISBN 1991 / 075020169X

Publisher Wayland Publishers Ltd.

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 293069

Est. Price \$17.90

A variety of electrical devices and technologies are illustrated and explored through construction activities. Activities are clearly explained in numbered steps and illustrated in coloured drawings. Switches, batteries, electromagnets, printed circuits and electrically-powered vehicles are among the technologies covered in this volume.



Elementary Technology

Series: *Techniques for Technology*

Grades 3, 4, 5 *Authorized Teaching*
Topics 3B, 3C, 4A, 4B, 5A, 5B

Copyright/ISBN 1994 / 1899413103

Publisher Technology Teaching Systems

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 304171

Est. Price \$24.90

This resource book on materials, tools and techniques provides a set of captioned pictures and explanations to guide teachers and students in construction activities. Black and white illustrations show a wide range of materials and techniques in such areas as wooden structures, axles, motors, sensors and switches, as well as example applications in buggies, bridges and barriers. Several challenging design and make activities are included.



How People Use Electricity: How Electric Energy Works: ScienceMats

Series: *Science Place*

Grade 5 *Authorized Teaching*
Topics 5A, 5B

Copyright/ISBN 1995 / 0590277022

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301127

Est. Price \$26.55

The science mats are blackline masters that can be used for setting tasks, recording results and evaluating student progress.



How People Use Electricity: How Electric Energy Works: A Student's Map to Exploration

Series: *Science Place*

Grade 5 *Support*
Topics 5A, 5B

Copyright/ISBN 1995 / 0590276980

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier Out-of-Print

This resource provides background information, questions and specific tasks for students.

BEST COPY AVAILABLE

Note: April 1998 LRDC prices are quoted.

GRADE 5 – TOPIC B



How People Use Electricity: How Electric Energy Works: A Teacher's Map to Exploration

Series: *Science Place*

Grade 5

Authorized Teaching

Topics 5A, 5B

Copyright/ISBN 1995 / 0590276999

Publisher Scholastic Inc.

Distributor Scholastic-TAB Publications Ltd.

Supplier LRDC

Order No. 301135

Est. Price \$42.45

This teacher guide, together with the science mats, outlines a sequence of 18 lessons with activities that explore the nature of electricity and magnetism and their application to a variety of technological devices. Lesson outlines include objectives, preparation, content background, suggestions for developing the lesson, extensions, options and evaluations.



Magnets and Motors: Student Activity Book

Series: *Science and Technology for Children*

Grade 5

Support

Topics 5A, 5B

Copyright 1991

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293225

Est. Price \$7.10

This student activity book provides activity outlines and diagrams that supplement the teacher's guide and assist students in working independently.



Magnets and Motors: Teacher's Guide

Series: *Science and Technology for Children*

Grade 5

Authorized Teaching

Topics 5A, 5B

Copyright 1991

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 293233

Est. Price \$34.95

This teacher guide outlines activities for the study of magnets, electromagnets and motors. Each activity includes an overview, objectives, background information, materials, preparations, instructional procedures, and suggestions for extension and evaluation. Construction techniques are clearly illustrated with line drawings. Some blackline masters are provided. Appendices include sample assessment tests, a record sheet, a bibliography and materials lists.



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: *Nelson Science*

Grades 3, 4, 5, 6

Authorized Teaching

Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.

GRADE 5 – TOPIC B



Teaching Techniques for Elementary Technology

Series: *Design & Make*

Grades 2, 3, 4, 5, 6 *Authorized Teaching Topics 2B, 3B, 4C, 5B, 6B*

Copyright/ISBN 1994 / 1884461050

Publisher NES Arnold Educational

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304139

Est. Price \$27.55

This teacher resource book outlines construction techniques and student projects, using wood, cardboard, elastic bands and a variety of recycled materials. Activities include various fixed and moving structures, such as boats, airplanes, vehicles and devices that use electric motors. Construction suggestions and simple line drawings are provided for each activity.



Technology IDEAS (Integrating Design Education Activities for Students): A Teaching Resource Book

Grades 3, 4, 5, 6 *Authorized Teaching Topics 3B, 4C, 5B, 6B*

Author(s) Reynolds, B.; Corney, B.; Dale, N.

Copyright/ISBN 1993 / 0029541549

Publisher Maxwell MacMillan Canada

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

Order No. 291881

Est. Price \$39.50

This resource book provides teaching suggestions and blackline masters for 29 challenge activities covering a wide range of technologies. Challenges involve building structures and devices that will perform specific tasks. General suggestions for planning, organizing and using tools are also provided.



Techniques for Primary Design and Technology

Series: *Rainbow Technology*

Grades 3, 4, 5 *Authorized Teaching Topics 3B, 4C, 5B*

Author(s) Gibson, C. et al.

Copyright/ISBN 1991 / 0748711236

Publisher Stanley Thornes & Hulton

Distributor Bacon and Hughes

Supplier LRDC

Order No. 298267

Est. Price \$33.55

This illustrated how-to book shows a variety of techniques that can be used for construction and problem-solving tasks. An introductory section gives general suggestions on materials and applications. This is followed by separate sections on such topics as electricity, structures, going round and round, making noises, motors, releasing, and making adjustments.

GRADE 5 – TOPIC C



Art and Science Connection, The: Hands-On Activities for Intermediate Students

Grades 2, 4, 5, 6 *Authorized Teaching*
Topics 2A, 4A, 4D, 5C, 6D

Author(s) Tolley, K.

Copyright/ISBN 1994 / 0201455455

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292285

Est. Price \$35.45

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.



Chemical Tests: Student Activity Book

Series: *Science and Technology for Children*

Grade 5

Topic 5C

Support

Copyright/ISBN 1994 / 0892787058

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 301440

Est. Price \$7.10

This student activity book provides activity outlines and diagrams that supplement the teacher's guide and assist students in working independently.



Chemical Tests: Teacher's Guide

Series: *Science and Technology for Children*

Grade 5

Topic 5C

Authorized Teaching

Copyright/ISBN 1994 / 089278704X

Publisher National Science Resources Center

Distributor Carolina Biological Supply Co.

Supplier LRDC

Order No. 301432

Est. Price \$34.95

This teacher guide outlines 16 activities for the study of chemical properties and interactions. Five common kitchen powders serve as the focus of these activities, starting from initial explorations and proceeding through a variety of tests involving reactions with other materials, examinations of crystals, observations of the effects of heat, and tests with indicator solutions. All activities include objectives, background information, materials, preparation, instructional procedures, and suggestions for extension and evaluation. Appendices provide sample assessment tests, student record sheets, a bibliography, instructions for preparing test solutions, and blackline masters that will be useful for organizing materials.



Mixtures and Solutions: Teacher's Guide

Series: *Full Option Science System (FOSS)*

Grade 5

Topic 5C

Authorized Teaching

Copyright/ISBN 1992 / 0782600816

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Britannica Publications

Supplier LRDC

Order No. 299976

Est. Price \$190.20

Organized in a 3-ring binder format, this teacher guide provides an overview, activity outlines, assessment materials and duplication masters for an introductory unit on solution chemistry. The overview section provides general background on the content of the unit and an introduction to the unit organization and instructional approach. This is followed by four activity folios, each including instructional objectives; a brief overview and background notes; materials list; methods for preparing and developing the activity; and an analysis of vocabulary, language and mathematics development within the activity. The four folios are: Separating Mixtures, Reaching Saturation, Fizz Quiz, and Concentration. Hands-on materials to support this unit are available from the publisher or may be obtained separately.

GRADE 5 – TOPIC C



Of Cabbages and Chemistry: Teacher's Guide

Series: *Great Explorations in Math and Science (GEMS)*

Grade 5 *Authorized Teaching*

Topic 5 C

Author(s) Barber, J.

Copyright/ISBN 1989 / 091251163X

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292318

Est. Price \$16.55

Extracting the juice from a purple cabbage is the starting point for studying a variety of kitchen chemicals. This natural indicator changes colour in the presence of different materials, indicating which are acidic, basic or neutral. Four learning sessions are described in this teacher resource, taking students from awareness of indicators to development of skill and understanding of their use. Each session includes an introduction, list of materials, getting ready activities and a step by step guide to developing each activity.

GRADE 5 – TOPIC D



Be Your Own Weather Expert

Series: *Science Activity Books*

Grade 5

Topic 5D

Support

Author(s) Kelly, J.

Copyright/ISBN 1991 / 0750008474

Publisher Simon & Schuster

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 300111

Est. Price \$19.25

Properties of air, weather phenomena, and simple means to investigate them are described in this colourful book. Organized in topical sections with two-page spreads and sidebars, each topic gives background information, explanations of what students may observe, and practical activities and devices that students can use in their own investigations. Topics include air pressure, winds, clouds, rain, snow and ice, weather forecasting, and changing climates. An index and glossary are provided.



Ecosystem of a Pond

Grade 5

Topic 5D

Support

Copyright 1992

Publisher Aims Media

Distributor Canadian Learning Company Inc.

Supplier LRDC

Order No. 312190

Est. Price \$58.90

The techniques for studying pond life and the variety of creatures found living in a pond are shown. Close-up and microscopic views illustrate details of the structure of ponds and pond creatures.



How the Weather Works

Grade 5

Topic 5D

Support

Author(s) Allaby, M.

Copyright/ISBN 1995 / 089577612X

Publisher Reader's Digest Association Ltd.

Distributor Reader's Digest Association (Canada) Ltd.

Supplier Out-of-Print

The nature of weather and climate and the methods of observing and measuring weather phenomena are described and illustrated. Over 50 activities are shown, each with step by step instructions and accompanying photographs.



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: *Nelson Science*

Grades 3, 4, 5, 6

Authorized Teaching

Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.

GRADE 5 – TOPIC D



Oceans of Air (Student Book)

Series: *Science Turns Minds On*

Grade 5
Topic 5 D

Support

Author(s) Atwater, M. et al.

Copyright/ISBN 1993 / 0022742697

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson

Supplier LRDC

Order No. 301846

Est. Price \$11.45

This 80-page, brightly illustrated, softcover student book provides information and activities for the study of air and weather. Topics include characteristics of air, wind, clouds, weather change and climate.



Oceans of Air: Teacher Assessment Guide: Teacher Guide and Blackline Masters

Series: *Science Turns Minds On*

Grade 5
Topic 5 D

Authorized Teaching

Author(s) Atwater, M. et al.

Copyright/ISBN 1993 / 0022744606

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson

Supplier LRDC

Order No. 301854

Est. Price \$21.10

Blackline masters for assessment are provided in this resource.



Oceans of Air: Teacher's Planning Guide

Series: *Science Turns Minds On*

Grade 5
Topic 5 D

Authorized Teaching

Author(s) Atwater, M. et al.

Copyright/ISBN 1993 / 0022743138

Publisher Glencoe MacMillan McGraw Hill

Distributor McGraw-Hill Ryerson

Supplier LRDC

Order No. 301862

Est. Price \$85.00

This teacher planning guide provides a comprehensive introduction and analysis of the student book, including suggestions for developing critical thinking, follow-up activities, extensions, curriculum links and suggestions for assessment.



Weather

Series: *Eyewitness Books*

Grade 5
Topic 5 D

Support

Author(s) Cosgrove, B.

Copyright/ISBN 1991 / 0773724613

Publisher Stoddart Publishing

Distributor Irwin Publishing

Supplier LRDC

Order No. 298168

Est. Price \$15.65

This resource, with extensive colour illustrations and extended captions, presents information about weather, its study and its effect on humans. Historical notes and examples of technologies used in the study of weather are also provided. Topics include forecasting, frost and ice, the birth of a cloud, a rainy day, monsoons, whirling winds, fogs and winds, mountain weather, colours in the sky, and a home weather station.



Weather

Series: *Investigations in Science*

Grade 5
Topic 5 D

Authorized Teaching

Author(s) Wyma, B.

Copyright/ISBN 1995 / 0003482802

Publisher Creative Teaching Press

Distributor Scholar's Choice

Supplier LRDC

Order No. 323668

Est. Price \$14.50

This teacher resource book provides background information, suggestions for concept development and specific activities for a unit on weather. Reproduction masters for transparencies and student sheets are included. Topics include seasonal changes, convection cells, pressure gradient force, humidity, dew point, fronts and storms.

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GRADE 5 – TOPIC D



Weather at Work

Series: *Secrets of Science*

Grade 5

Support

Topic 5 D

Author(s) Kerrod, R.

Copyright/ISBN 1992 / 0745151728

Publisher Cherrytree Press

Distributor ITP Nelson Canada

Supplier LRDC

Order No. 292970

Est. Price \$17.90

Information about the properties of air, weather phenomena and weather study is reinforced and extended through practical activities. All activities are clearly outlined and supported by colour drawings. Winds, evaporation, rain and snow, cloud formation, and climate are among the topics covered. An index and glossary are provided.



Weather Instruments: Teacher's Guide

Series: *Delta Science Modules*

Grade 5

Authorized Teaching

Topic 5 D

Author(s) Paldy, L.G.

Copyright 1988

Publisher Delta Education

Distributor Delta Education

Supplier LRDC

Order No. 299942

Est. Price \$18.65

Ten activities for the measurement and study of weather phenomena are outlined in this teacher guide. Activities include measuring air temperature, plotting temperature trends, measuring pressure and pressure changes, measuring wind speed and direction, and observing relative humidity and clouds. Each activity includes a statement of objectives, materials list, background information, teaching suggestions and ideas for reinforcing concepts. Blackline masters, suggestions for evaluation and a glossary are also provided.



Weather Investigations

Series: *Brain Waves*

Grade 5

Authorized Teaching

Topic 5 D

Author(s) Ralph, F.

Copyright/ISBN 1991 / 1852760710

Publisher Folens Publishers

Distributor Bacon and Hughes

Supplier LRDC

Order No. 292699

Est. Price \$14.50

This coilbound teacher resource provides blackline masters for a variety of weather investigations. Topics include reading thermometers, properties of air, water cycle, causes of wind, measuring wind, seasons, local weather, temperatures and rainfall. Charts for recording and graphing weather changes are included. This resource is referenced to the National Curriculum of Great Britain, and maps are based on Great Britain.

GRADE 5 – TOPIC E



First Look at Birds, A

Grades 1, 3, 5, 6
Topics 1E, 3E, 5E, 6B

Support

Copyright 1993
Publisher Aims Media
Distributor Canadian Learning Company Inc.
Supplier LRDC

Order No. 325185 **Est. Price** \$58.90

This video introduces viewers to a wide variety of bird species and describes the anatomic features that suit each bird to its habitat and way of living. Feeding habits, breeding, migration and communication methods are shown.



If You Build It (Videocassette)

Grade 5
Topic 5 E

Support

Copyright 1997
Publisher Ducks Unlimited Canada
Distributor Ducks Unlimited Canada

Supplier Vendor Direct (Available Free of Charge)

This program was developed to support the study of wetland ecosystems by Alberta students. It provides a serious look at how wetland habitats can be preserved, enhanced and restored, with just a twist of fantasy thrown in.



More Than Ducks (Videocassette)

Grade 5
Topic 5 E

Support

Copyright 1997
Publisher Ducks Unlimited Canada
Distributor Ducks Unlimited Canada
Supplier Vendor Direct (Available Free of Charge)

This program was developed to support the study of wetland ecosystems by Alberta students. It provides a look at the diversity of organisms found in wetland habitats and considers the effect of human action on habitat preservation or elimination.



Pond Life (Includes: The Pond; Animal Eaters of the Pond; Plant Eaters of the Pond)

Series: *Sunshine Science*

Grade 5
Topic 5 E

Support

Author(s)	Title	Order No.	Est. Price
King, M.; Biddulph, F.; Biddulph, J.	The Pond (6 copies per package)	301672	\$37.35
	Animal Eaters of the Pond (6 copies per package)	301680	\$37.35
	Plant Eaters of the Pond (6 copies per package)	301698	\$37.35

Copyright 1995
Publisher Applecross Ltd.
Distributor Prentice Hall Ginn Canada
Supplier LRDC

The diversity of life within ponds is colourfully illustrated and described in this series of three booklets. Animals shown include snails, caddis fly larvae, water fleas, water boatmen, damsel fly and dragonfly nymphs, hydras, leeches, and small fish. All booklets are illustrated with large colour photographs and include a glossary and index. Text is brief and simply explained in large print.



Pond Life: Teacher's Guide

Series: *Delta Science Modules*

Grade 5
Topic 5 E

Authorized Teaching

Copyright/ISBN 1988 / 0875047181
Publisher Delta Education
Distributor Delta Education
Supplier LRDC

Order No. 301458 **Est. Price** \$18.80

Twelve activities for observational studies of pond organisms are outlined in this teacher guide. Activities include using a magnifier, a visit to a pond, pond water ecosystems, microscopic and macroscopic life, and food chains. Each activity has a statement of objectives, materials list, background information, teaching suggestions and ideas for reinforcing concepts. A brief section on evaluation and a glossary are provided.

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Note: April 1998 LRDC prices are quoted.

GRADE 5 – TOPIC E



Potholes and Ponds: A Pond Study Guide for Elementary School Children

**Grade 5
Topic 5 E**

Authorized Teaching

Author(s) Murawsky, V.H.

Copyright/ISBN 1987 / 0921257074

Publisher Western Extension College Publishers

Distributor Western Extension College Publishers

Supplier LRDC

Order No. 293283

Est. Price \$18.85

This teacher resource book provides background information and practical suggestions for classroom field study of a pond. Activities include pond mapping and measurement, discovering what lives in the pond, setting up a pond in the classroom, and observing the sights and sounds of a pond. A pictorial key provides clear line drawings of some of the most common organisms.



Wetlands Ecosystems: Student Manual: Grade 5

**Grade 5
Topic 5 E**

Support

Copyright 1997

Publisher Ducks Unlimited Canada

Distributor Ducks Unlimited Canada

Supplier Vendor Direct (Available Free of Charge)

This student manual was developed to support the study of wetland ecosystems by Alberta students in Grade 5 science. Linked to the accompanying teacher manual, the student manual provides background information, illustrations and space for students to enter specific observations, information and analysis. Some guidance will be needed, as the reading level is high.



Wetlands Ecosystems: Teacher Manual: Grade 5

**Grade 5
Topic 5 E**

Authorized Teaching

Copyright 1997

Publisher Ducks Unlimited Canada

Distributor Ducks Unlimited Canada

Supplier Vendor Direct (Available Free of Charge)

This teacher manual was developed to support the study of wetland ecosystems by Alberta students in Grade 5 science. Each of the nine activities outlined in this manual are correlated to the Alberta program of studies for science and include a list of materials, a description of the activity and suggested follow-up activities. The manual also contains blackline masters that provide extensive illustrations of wetland organisms.



Wonders of Wetlands, The: Teacher's Guide, Student Cards

**Grade 5
Topic 5 E**

Authorized Teaching

Author(s) Ealey, J.

Copyright/ISBN 1995 / 1896469000

Publisher Educational Vivarium of Alberta

Distributor Educational Vivarium of Alberta

Supplier LRDC

Order No. 304858

Est. Price \$44.75

A series of 12 lessons, with accompanying information and activity cards, for the studying of life in and around wetlands is outlined in this teacher guide. Topics include identification of organisms, interactions within a wetland ecosystem, food chains and webs, and changes in wetland environments. Accompanying identification cards show blackline drawings and descriptions. A set of pond cards and human action cards is also provided.

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GRADE 6 SERIES

EXPLORATIONS IN SCIENCE

Author(s): Campbell, S. et al.

Publisher/Distributor: Addison-Wesley Publishers

This series is an activity-based program that encourages students to get involved in science by exploring and experimenting with materials while working in a variety of groupings and settings. The program is organized in topics of study around five themes that provide a framework for science concepts and principles. The teacher's resource book has blackline masters; literature links; and extensive strategies for planning, implementing and exploring.

TEACHER RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
	Explorations in Science: Level Six: Assessment Handbook Copyright/ISBN 1993 / 0201606828	<i>Authorized Teaching</i> 291526	\$27.10
	Explorations in Science: Level Six: Teacher's Resource Book (Modular Ed.) (Includes Alberta Implementation Guide) Copyright/ISBN 1993 / 0201881896	<i>Authorized Teaching</i> 291534	\$212.60

STUDENT RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
	Explore!: A Book of Science: Level Six Student Resource Book Copyright/ISBN 1993 / 0201560690	<i>Support</i> 293332	\$21.10

INNOVATIONS IN SCIENCE

Author(s): Peturson, R.; McAllister, N.

Publisher/Distributor: Holt, Rinehart & Winston/Harcourt Brace & Co.

This series supports student-centred, activity-based science. It is organized around themes and topics that provide science-technology-society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

TEACHER RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
	Innovations in Science: Level 6: Teacher Resource Package (Alberta Edition) Copyright/ISBN 1995 / 077470182X	<i>Authorized Teaching</i> 292764	\$199.50

STUDENT RESOURCES

SUPPLIER: LRDC

		Order No.	Est. Price
	Innovations in Science: Level 6 (Student Book) (Alberta Edition) Copyright/ISBN 1995 / 0774701811	<i>Support</i> 292798	\$33.95

Note: April 1998 LRDC prices are quoted.

GRADE 6 SERIES

LET'S DO SCIENCE

Publisher/Distributor: Science Alberta Foundation

This six-volume teacher guide provides a ready reference for planning and teaching the Alberta elementary science program. It provides a general introduction to the program and topic by topic outlines that include background information, suggested activities for teaching and learning, and specific references to student and teacher resources for each activity.

TEACHER RESOURCES

SUPPLIER: LRDC



**Let's Do Science: Level 6: A Time-Saving,
Teacher-Friendly Guide to Alberta's Elementary
Science Curriculum**

Copyright/ISBN 1995 / 1896618065

Authorized Teaching

Order No.	Est. Price
295643	\$29.90



Let's Do Science: Levels 1 - 6 (Complete Set)

Authorized Teaching

295586	\$169.55
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Note: April 1998 LRDC prices are quoted.

GRADE 6 – TOPIC A



101 Science Tricks: Fun Experiments with Science and Maths

Grades 4, 6
Topics 4C, 4D, 6A

Support

Author(s) Richards, R.

Copyright/ISBN 1990 / 0750005564

Publisher Simon & Schuster Young Books

Distributor Prentice Hall Ginn Publishing Co.

Supplier Out-of-Print

Over 70 mini-projects are outlined in this colourful resource book for students and teachers. Projects are organized in three main areas: optical devices, including periscopes, kaleidoscopes and flick books; devices that move, such as airplanes, helicopters and dragsters; and a variety of constructions made from paper. Activities are outlined in point form and supported by numerous illustrations that are integrated with the text.



Sky's the Limit!, The: With Math and Science: Grades 5–9: Aerodynamics

Grade 6
Topics 6A, 6B

Authorized Teaching

Author(s) Adair, S. et al.

Copyright/ISBN 1987 / 1881431444

Publisher Aims Education Foundation

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 301474

Est. Price \$39.05

This teacher resource outlines 24 activities for the study of airplanes, kites, rockets, parachutes and other flying devices. Activity outlines include key questions, materials lists, procedures, management suggestions and ideas for discussion. Over 50 blackline masters are provided.



Up, Up and Away: The Science of Flight (1st Ed.)

Series: *Experiment!*

Grade 6
Topics 6A, 6B

Support

Author(s) Darling, D.

Copyright/ISBN 1991 / 0875184790

Publisher Dillon Press

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 292350

Est. Price \$17.60

The principles of aeronautics are described in this student resource with numerous examples of aircraft technology and suggested activities. Activity outlines include a listing of materials along with "what to do" and "taking it further." Colour illustrations, line drawings, a glossary and an index are provided.

GRADE 6 – TOPIC B



First Look at Birds, A

Grades 1, 3, 5, 6
Topics 1E, 3E, 5E, 6B

Support

Copyright 1993
Publisher Aims Media
Distributor Canadian Learning Company Inc.
Supplier LRDC
Order No. 325185 **Est. Price** \$58.90

This video introduces viewers to a wide variety of bird species and describes the anatomic features that suit each bird to its habitat and way of living. Feeding habits, breeding, migration and communication methods are shown.



Flight

Series: *Exploring Technology*

Grade 6
Topic 6B

Support

Author(s) Dixon, M.
Copyright/ISBN 1990 / 1852109319
Publisher Nelson Canada
Distributor ITP Nelson Canada
Supplier LRDC
Order No. 300088 **Est. Price** \$19.45

The principles and technology of flight are described and illustrated with descriptions and pictures of a wide range of flying devices, including hot air balloons, gliders, helicopters, propeller-driven planes and jet planes. Model building activities are outlined, often on facing pages, so students can compare the model to the actual flying device.



Flight

Series: *Investigations in Science*

Grade 6
Topic 6B

Authorized Teaching

Author(s) Hetzel, J.; Wyma, B.
Copyright/ISBN 1995 / 0003482803
Publisher Creative Teaching Press
Distributor Scholar's Choice
Supplier LRDC
Order No. 323650 **Est. Price** \$14.50

This teacher resource book provides background information, suggestions for concept development, and specific activities for a unit on aerodynamics and flight. Topics include: flight forces, Bernoulli's principle, air force, air speed, stability and control surfaces. Reproduction masters for transparencies and student sheets are provided.

Note: April 1998 LRDC prices are quoted.



Flight

Series: *Starting Technology*

Grade 6
Topic 6B

Support

Author(s) Williams, J.
Copyright/ISBN 1991 / 075020026X
Publisher Wayland Publishers Ltd.
Distributor ITP Nelson Canada
Supplier Out-of-Print

How to build model gliders, helicopters and kites, and how to test these devices is the subject of this colourful book. All construction is based on simple materials and techniques that are clearly outlined and well illustrated with step by step diagrams.



Flight

Series: *Wonder Why*

Grade 6
Topic 6B

Support

Copyright 1991
Publisher CTV
Distributor Magic Lantern Communications Ltd.
Supplier LRDC
Order No. 311655 **Est. Price** \$116.75

Air and aeronautics are investigated by examining a variety of applications, including hot air balloons, paper airplanes and aircrafts.



Flying Machine

Series: *Eyewitness Books*

Grade 6
Topic 6B

Support

Author(s) Nahum, A.
Copyright/ISBN 1990 / 0773724117
Publisher Stoddart Publishing
Distributor Irwin Publishing
Supplier LRDC
Order No. 293845 **Est. Price** \$13.45

The science, technology and history of flight are woven together in this visual presentation of aircrafts. Using a double-page spread format, a main idea is introduced for each spread including one or more large pictures and smaller pictures to show detail. The majority of the text is extended captions.

GRADE 6 – TOPIC B



Sky's the Limit!, The: With Math and Science: Grades 5–9: Aerodynamics

Grade 6

Authorized Teaching

Topics 6A, 6B

Author(s) Adair, S. et al.

Copyright/ISBN 1987 / 1881431444

Publisher Aims Education Foundation

Distributor Spectrum Educational Supplies Ltd.

Supplier LRDC

Order No. 301474

Est. Price \$39.05

This teacher resource outlines 24 activities for the study of airplanes, kites, rockets, parachutes and other flying devices. Activity outlines include key questions, materials lists, procedures, management suggestions and ideas for discussion. Over 50 blackline masters are provided.



Teaching Techniques for Elementary Technology

Series: Design & Make

Grades 2, 3, 4, 5, 6

Authorized Teaching

Topics 2B, 3B, 4C, 5B, 6B

Copyright/ISBN 1994 / 1884461050

Publisher NES Arnold Educational

Distributor Technology Teaching Systems

Supplier LRDC

Order No. 304139

Est. Price \$27.55

This teacher resource book outlines construction techniques and student projects, using wood, cardboard, elastic bands and a variety of recycled materials. Activities include various fixed and moving structures, such as boats, airplanes, vehicles and devices that use electric motors. Construction suggestions and simple line drawings are provided for each activity.



Technology IDEAS (Integrating Design Education Activities for Students): A Teaching Resource Book

Grades 3, 4, 5, 6

Authorized Teaching

Topics 3B, 4C, 5B, 6B

Author(s) Reynolds, B.; Corney, B.; Dale, N.

Copyright/ISBN 1993 / 0029541549

Publisher Maxwell MacMillan Canada

Distributor Prentice Hall Ginn Publishing Co.

Supplier LRDC

Order No. 291881

Est. Price \$39.50

This resource book provides teaching suggestions and blackline masters for 29 challenge activities covering a wide range of technologies. Challenges involve building structures and devices that will perform specific tasks. General suggestions for planning, organizing and using tools are also provided.



Up, Up and Away: The Science of Flight (1st Ed.)

Series: Experiment!

Grade 6

Support

Topics 6A, 6B

Author(s) Darling, D.

Copyright/ISBN 1991 / 0875184790

Publisher Dillon Press

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 292350

Est. Price \$17.60

The principles of aeronautics are described in this student resource with numerous examples of aircraft technology and suggested activities. Activity outlines include a listing of materials along with "what to do" and "taking it further." Colour illustrations, line drawings, a glossary and an index are provided.

BEST COPY AVAILABLE

GRADE 6 – TOPIC C



Discovery Works: Unit B: The Solar System and Beyond: Student Booklet

Series: *Discovery Works*

Grade 6

Support

Topic 6 C

Copyright/ISBN 1996 / 0382334264

Publisher Silver Burdett Ginn

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 359712

Est. Price \$10.65

This student booklet provides a well-illustrated introduction to the study of planets and stars. Particular focus is given to the methods used to learn about space, the development of models and the special challenges posed by life in space. Activities are clearly outlined and illustrated. A Science Tools section describes and provides sample activities for developing science process skills. A glossary is included.



Discovery Works: Unit B: The Solar System and Beyond: Teaching Guide

Series: *Discovery Works*

Grade 6

Authorized Teaching

Topic 6 C

Copyright/ISBN 1996 / 0382334779

Publisher Silver Burdett Ginn

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 359738

Est. Price \$33.10

This teaching guide provides a well-illustrated introduction to the study of planets and stars. Particular focus is given to the methods used to learn about space, the development of models and the special challenges posed by life in space. Activities are clearly outlined and illustrated. A Science Tools section describes and provides sample activities for developing science process skills. A glossary is included.



Earth, Moon and Stars: Teacher's Guide

Series: *Great Explorations in Math and Science (GEMS)*

Grade 6

Authorized Teaching

Topic 6 C

Author(s) Sneider, C.I.

Copyright/ISBN 1989 / 0912511184

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292342

Est. Price \$16.55

This teacher resource outlines six activities for studying the relative positions and motions of Earth, the moon, the sun and the stars. Extensive suggestions are provided to help students proceed from an early understanding of up, down, sky and Earth to a more complex frame of reference in which Earth is seen as a sphere, and the apparent motion of stars is the result of Earth's rotation. Example questioning strategies and some blackline masters are included.



Nelson Science: Teacher's Classroom Manual: Key Stage 2

Series: *Nelson Science*

Grades 3, 4, 5, 6

Authorized Teaching

Topics 3A, 3B, 3D, 3E, 4B, 4D, 4E, 5A, 5B, 5D, 6C

Author(s) Hopkins, S.; Jowett, M.

Copyright/ISBN 1991 / 0174232012

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This resource provides support in planning and implementing a variety of science topics for 7- to 11-year-olds. Keyed to the National Curriculum of Great Britain, units developed in this resource are light, sound, electricity, environments, plants, animals, sky and weather, moving things, materials, and the human body. Each unit provides a statement of objectives, a summary of topics and cross-curriculum links, resources and equipment, questions that can be used in guiding activities, ideas to be developed, sample investigations, and an evaluation checklist. Colour photographs show students at work in a variety of investigative tasks.

GRADE 6 – TOPIC C



Night Sky

Series: *Eyewitness Explorers*

Grade 6

Support

Topic 6 C

Author(s) Stott, C.

Copyright/ISBN 1993 / 0773727280

Publisher Stoddart Publishing

Distributor Irwin Publishing

Supplier LRDC

Order No. 301804

Est. Price \$10.40

This student resource, including historical notes, many interesting facts and the occasional suggested activity, provides a tour of the many objects seen in the night sky. This book is organized in double-page spreads with numerous colour illustrations. Approximately half of the book deals with stars and star clusters, and the remainder introduces the planets, moons and other objects that make up the solar system.



Stars and Planets

Series: *Secrets of Science*

Grade 6

Support

Topic 6 C

Author(s) Kerrod, R.

Copyright/ISBN 1991 / 0745151248

Publisher Cherrytree Press

Distributor ITP Nelson Canada

Supplier Out-of-Print

The positions and motions of objects in the solar system are described and illustrated in this colourful book. Many of the ideas are supported by suggested activities in which students make models and use the models to gain a three-dimensional perspective.



Solar System: Teacher's Guide

Series: *Delta Science Modules*

Grade 6

Authorized Teaching

Topic 6 C

Author(s) Finsand, D.L.

Copyright/ISBN 1988 / 0875047637

Publisher Delta Education

Distributor Delta Education

Supplier LRDC

Order No. 299926

Est. Price \$18.60

Ten activities for the construction and interpretation of solar system models are outlined in this teacher guide. Activities include constructing models of moons and satellites; drawing orbits; and showing scale and relative size, the inner planets, the outer planets, asteroids, and comets. Each activity includes a statement of objectives, materials lists, background information, and suggestions for teaching and reinforcing concepts. A brief section on evaluation and a glossary are provided.

GRADE 6 – TOPIC D



Art and Science Connection, The: Hands-On Activities for Intermediate Students

Grades 2, 4, 5, 6 *Authorized Teaching*
Topics 2A, 4A, 4D, 5C, 6D

Author(s) Tolley, K.

Copyright/ISBN 1994 / 0201455455

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292285

Est. Price \$35.45

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.



Crime Lab Chemistry: Teacher's Guide: Grades 4–8

Series: *Great Explorations in Math and Science (GEMS)*

Grade 6 *Authorized Teaching*
Topic 6D

Author(s) Barber, J.

Copyright/ISBN 1993 / 0912511168

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 298209

Est. Price \$14.20

Basic techniques of paper chromatography are described and applied through a mystery activity. This teacher resource describes the materials required, classroom preparation and suggested approach to investigation.



Fingerprinting: Teacher's Guide

Series: *Great Explorations in Math and Science (GEMS)*

Grade 6 *Authorized Teaching*
Topic 6D

Author(s) Ahouse, J.J.; Barber, J.

Copyright/ISBN 1987 / 0912511214

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292326

Est. Price \$14.20

This teacher resource outlines a set of three learning sessions in which students develop observation and inference skills based on studying fingerprints. Each activity includes a list of materials, an overview, suggestions for introducing the activity, notes on specific techniques and blackline masters. Background information, literature connections and suggestions for extending activities are provided.



Mystery Festival: Teacher's Guide

Series: *Great Explorations in Math and Science (GEMS)*

Grade 6 *Authorized Teaching*
Topic 6D

Author(s) Beals, K.

Copyright/ISBN 1994 / 0912511893

Publisher Lawrence Hall of Science, U of C at Berkeley

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 300989

Est. Price \$40.05

A classroom "who done it?", this teacher resource provides the materials required to set the scene of a crime and to guide students in techniques of investigation. Two mysteries are included: Who Borrowed Mr. Bear?, a mystery for young detectives in Grade 2 to Grade 3, and The Case of the Missing Millionaire, a mystery for older detectives in Grade 4 to Grade 8. Each mystery includes an overview, materials list, getting ready activities, introduction to the challenge, sample evidence and activity guide for five sessions of investigation.

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GRADE 6 – TOPIC E



Alberta's Focus on Forests: A Resource Guide on Alberta's Forests: Elementary

Grade 6 *Authorized Teaching*
Topic 6 E

Copyright 1993
Publisher Alberta Forestry Association
Distributor Alberta Forestry Association
Supplier LRDC
Order No. 298077 **Est. Price** \$56.15

Over 40 activities for studying trees and forests are outlined in this teacher resource. Based on the four-step model for instruction, each exercise provides suggestions for developing the lesson through guided discovery, inquiry and debriefing. Suggestions for cooperative learning and for assessment are included. Activities are organized under the headings Adaptations for Life, Ecosystems—Everything Matters, Environmental Factors, Outdoor Activities and Natural Resources. Some lessons include blackline masters.



Alberta's Focus on Forests: A Resource Guide on Alberta's Forests: Junior High

Grade 6 *Authorized Teaching*
Topic 6 E

Copyright 1993
Publisher Alberta Forestry Association
Distributor Alberta Forestry Association
Supplier LRDC
Order No. 276495 **Est. Price** \$56.15

Over 30 activities for studying trees and forests are outlined in this teacher resource. Most activities are suitable for Grade 6 and junior high levels. Each exercise includes an overview, objectives, background information, advance preparation, teaching suggestions; extension activities and evaluation strategies. Activities are organized in five sections: adaptations for life, the forest tree, conditions affecting growth, forest resources, and technologies and forest management for all. Most activities include blackline masters.



Teaching About Trees: A Resource Kit

Grade 6 *Authorized Teaching*
Topic 6 E

Author(s) Bloch, M.; Ingleton, R.
Copyright/ISBN 1994 / 0131584782
Publisher Prentice Hall Canada Inc.
Distributor Prentice Hall Ginn Canada
Supplier LRDC
Order No. 292467 **Est. Price** \$90.75

This teacher resource kit includes three age-specific booklets for teaching about trees in the classroom and in the field. Booklet One: The Young Explorer is targeted for ages 5–7; Booklet Two: The Young Researcher is targeted for ages 8–10; and Booklet Three: The Young Decision Maker is targeted for ages 11–13. Each booklet includes 12 or more activity outlines, each with learner outcomes, a topic overview, background information, suggestions for developing the lesson, evaluation strategies and resources. A glossary, bibliography and suggestions for growing trees are included in each booklet. Two additional booklets in the kit provide suggestions for community tree planting projects.



Touch a Tree

Grade 6 *Authorized Teaching*
Topic 6 E

Author(s) Edwards, H. et al.
Copyright/ISBN 1990 / 0888650108
Publisher Pacific Educational Press
Distributor Pacific Educational Press
Supplier LRDC
Order No. 293861 **Est. Price** \$10.80

This teacher resource book identifies topics suitable for elementary studies of trees. Questioning strategies and activities, suggestions for integrated activities, and a bibliography are included.

BEST COPY AVAILABLE

GRADE 6 – TOPIC E



Trees

Series: Eyewitness Explorers

Grade 6

Support

Topic 6 E

Author(s) Gamlin, L.

Copyright/ISBN 1993 / 0773726624

Publisher Stoddart Publishing

Distributor Irwin Publishing

Supplier LRDC

Order No. 292376

Est. Price \$10.40

Tree characteristics; their flowers, fruits and leaves; and their role in forest ecosystems are described and illustrated in this resource book. Organized in two-page spreads, each section includes a brief segment of text that establishes a central idea, which is then extended and applied through detailed illustrations and extensive captions.

Note: April 1998 LRDC prices are quoted.

GENERAL RESOURCES – TEACHER

CLASSROOM ASSESSMENT MATERIALS PROJECT (CAMP)

The Classroom Assessment Materials are summative assessment packages. Each package is designed for use by classroom teachers in assessing student achievement of the outcomes specified in the Alberta program of studies and focuses on the science program outcomes for a specific grade. The packages include three main components: a teacher manual that provides guidance in the administration of assessment materials and in the application of scoring criteria, a set of student materials, and examples of student responses.

SUPPLIER: LRDC
Order No. Est. Price

TEACHER RESOURCES



Classroom Assessment Materials Project (CAMP): *Authorized Teaching* Grade One (Science)

Copyright/ISBN 1997 / 1552490459

CAMP: Grade One (Science)	333956	\$29.95
CAMP: Elementary Science Package (includes Grades 1, 2, 3, 4, 5)	334657	\$129.95
CAMP: Grade One Complete Package (includes Language Arts, Mathematics, Social Studies, Science)	334152	\$99.95



Classroom Assessment Materials Project (CAMP): *Authorized Teaching* Grade Two (Science)

Copyright/ISBN 1997 / 155249019X

CAMP: Grade Two (Science)	333998	\$29.95
CAMP: Elementary Science Package (includes Grades 1, 2, 3, 4, 5)	334657	\$129.95
CAMP: Grade Two Complete Package (includes Language Arts, Mathematics, Social Studies, Science)	334160	\$99.95



Classroom Assessment Materials Project (CAMP): *Authorized Teaching* Grade Three (Science)

Copyright/ISBN 1997 / 1552490041

CAMP: Grade Three (Science)	334003	\$29.95
CAMP: Elementary Science Package (includes Grades 1, 2, 3, 4, 5)	334657	\$129.95



Classroom Assessment Materials Project (CAMP): *Authorized Teaching* Grade Four (Science)

Copyright/ISBN 1997 / 155249005X

CAMP: Grade Four (Science)	334045	\$29.95
CAMP: Elementary Science Package (includes Grades 1, 2, 3, 4, 5)	334657	\$129.95
CAMP: Grade Four Complete Package (includes Language Arts, Mathematics, Social Studies, Science)	334326	\$99.95



Classroom Assessment Materials Project (CAMP): *Authorized Teaching* Grade Five (Science)

Copyright/ISBN 1997 / 1552490696

CAMP: Grade Five (Science)	334087	\$29.95
CAMP: Elementary Science Package (includes Grades 1, 2, 3, 4, 5)	334657	\$129.95
CAMP: Grade Five Complete Package (includes Language Arts, Mathematics, Social Studies, Science)	334409	\$99.95

Note: April 1998 LRDC prices are quoted.

GENERAL RESOURCES – TEACHER



Developing Science in the Primary Classroom

Grades 1, 2, 3, 4, 5, 6 *Authorized Teaching Topic General*

Author(s) Harlen, W.; Jelly, S.

Copyright/ISBN 1989 / 0435083058

Publisher Heinemann

Distributor Irwin Publishing

Supplier Out-of-Print

This resource illustrates a general philosophy for teaching science with specific examples of instructional and learning strategies. Approaches to initiate an area of study and to develop the study through questions and classroom organization are provided. Suggestions for setting learner objectives and observing student performance to assess their progress are included.



Early Explorations in Mathematics & Science

Grades 1, 2, 3 *Authorized Teaching Topic General*

Author(s) Harcourt, L.; Wortzman, R.

Copyright/ISBN 1992 / 020156050X (Package)

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 129686

Est. Price \$135.30

This resource provides ideas to involve children in activities and discussions that maintain a high level of interest, develop positive attitudes, and encourage problem solving and creative thinking. It integrates mathematics, science and language and provides evaluation strategies and classroom management suggestions.



Informazing Resource Book, The

Series: *Informazing!*

Grades 1, 2, 3 *Authorized Teaching Topic General*

Author(s) Clyne, M.; Griffiths, R.

ISBN 0732704839

Publisher Prentice Hall

Distributor Prentice Hall Ginn Canada

Supplier LRDC

Order No. 272229

Est. Price \$50.15

The teacher resource book provides suggestions for helping students become familiar with the conventions of nonfiction and for helping them work with information graphics, develop information writing and reading skills, and enjoy reading nonfiction materials. Sections on evaluation and classroom management are also included.

Note: April 1998 LRDC prices are quoted.



Nelson Science Explorers Copymasters

Series: *Nelson Science*

Grades 1, 2, 3, 4, 5, 6 *Authorized Teaching Topic General*

Author(s) Hopkins, S.; Hunter, A.

Copyright/ISBN 1991 / 0174232020

Publisher Nelson UK

Distributor ITP Nelson Canada

Supplier Out-of-Print

This set of copymasters and teacher guide provides a format for guiding student thinking and record keeping as students plan and carry out investigative activities. Copies of planning sheets can be prepared for students, or they may be used to guide students in developing their own activity logs.



Science Learning: Coming to Know the World

Series: *Elementary Science Inservice*

Grades 1, 2, 3, 4, 5, 6 *Authorized Teaching Topic General*

Copyright/ISBN 1993 / 1895350352 (Viewer's Guide)

Publisher ACCESS NETWORK

Distributor ACCESS-The Education Station

Supplier ACCESS-The Education Station/Regional Resource and Urban Media Centres

BPN 339901

Est. Price \$17.25

The purpose of this video is to present and illustrate findings from recent research on student learning in science; to familiarize the viewer with one of several possible models for science inquiry; and to enable the viewer to assist students in developing an understanding of the world through systematic inquiry and problem solving.

Note: The cost includes duplicating charges only. Handling charges and GST are extra.

Expiry date: August 31, 2001

GENERAL RESOURCES – TEACHER



Science on a Shoestring (2nd Ed.)

Grades 1, 2, 3, 4, 5, 6 *Authorized Teaching Topic General*

Author(s) Strongin, H.

Copyright/ISBN 1991 / 0201257602

Publisher Addison-Wesley Publishers

Distributor Addison-Wesley Longman Ltd.

Supplier LRDC

Order No. 292277

Est. Price \$31.30

This teacher resource book provides outlines for 62 explorations and problem-solving activities covering a wide range of life science and physical science topics, including observing and growing crystals, studying mealworms, building a parachute, making a straw change its pitch, learning about conductors and insulators, and measuring the strength of a magnet. Each activity has a list of concepts to be studied, safety guidelines, teaching suggestions, home activities and suggestions for evaluation.



Science through Children's Literature: An Integrated Approach

Grades K, 1, 2, 3, 4, 5, 6 *Authorized Teaching Topic General*

Author(s) Butzow, C.M.; Butzow, J.W.

Copyright/ISBN 1989 / 0872876675

Publisher Teacher Ideas Press

Distributor Libraries Unlimited Inc.

Supplier LRDC

Order No. 120402

Est. Price \$36.90

This resource book focuses on children's literary works that are rich in scientific concepts, yet equally recognized for their strong story lines and universal appeal. Activities are built around each of the children's fictional selections and develop science and language arts skills. Each of the stories offers the opportunity to develop a specific science concept or topic. Related books and references are suggested throughout.

Note: April 1998 LRDC prices are quoted.

GENERAL RESOURCES – STUDENT

INFORMAZING!

Publisher/Distributor: Prentice Hall Ginn Publishing Co.

Informazing includes in its 22 titles of student books, the science books from the *Literacy 2000* series. The student books cover a range of nonfiction topics from animals, plants, minerals and the body to prehistory, conservation and the solar system.

			SUPPLIER: LRDC	
			Order No.	Est. Price
	Animal Acrobats (Small Book) Copyright/ISBN 1990 / 0170078809 (Package of 4)	<i>Support</i>	272047	\$49.95
	Animal Clues (Small Book) Copyright/ISBN 1988 / 0731208923 (Package of 4)	<i>Support</i>	271685	\$36.30
	Animal, Plant or Mineral? ... (Small Book) Copyright/ISBN 1986 / 0170073092 (Package of 4)	<i>Support</i>	271625	\$31.80
	Body Facts (Small Book) Copyright/ISBN 1986 / 0170076539 (Package of 4)	<i>Support</i>	271700	\$29.90
	Body Maps (Small Book) Copyright/ISBN 1989 / 0170076776 (Package of 4)	<i>Support</i>	272055	\$31.80
	Book of Animals Records, The (Small Book) Copyright/ISBN 1987 / 0454014767 (Package of 4)	<i>Support</i>	271809	\$32.00
	Caterpillar Diary (Small Book) Copyright/ISBN 1988 / 0731211789 (Package of 4)	<i>Support</i>	271718	\$36.30
	Creature Features (Small Book) Copyright/ISBN 1988 / 0732708265 (Package of 4)	<i>Support</i>	271693	\$34.15
	Earth in Danger (Small Book) Copyright/ISBN 1990 / 0170078876 (Package of 4)	<i>Support</i>	272063	\$34.15
	Gas Giants, The (Small Book) Copyright/ISBN 1989 / 0170070725 (Package of 4)	<i>Support</i>	272071	\$29.90
	Hidden Animals (Small Book) Copyright/ISBN 1988 / 0732708354 (Package of 4)	<i>Support</i>	272170	\$36.30
	I Spy (Small Book) Copyright/ISBN 1988 / 0732709407 (Package of 4)	<i>Support</i>	271750	\$36.30
	Life of the Butterfly, The (Small Book) Copyright/ISBN 1988 / 0454014651 (Package of 4)	<i>Support</i>	271742	\$36.30
	Millions of Years Ago (Small Book) Copyright/ISBN 1986 / 0732708435 (Package of 4)	<i>Support</i>	271768	\$29.90

Note: April 1998 LRDC prices are quoted.

GENERAL RESOURCES – STUDENT

SUPPLIER: LRDC

Order No. Est. Price

	Mystery Monsters (Small Book) Copyright/ISBN 1988 / 0731211460 (Package of 4)	<i>Support</i>	271726	\$32.00
	Postcards from the Planets (Small Book) Copyright/ISBN 1988 / 0732708591 (Package of 4)	<i>Support</i>	271817	\$28.80
	Skeletons (Small Book) Copyright/ISBN 1990 / 0732709563 (Package of 4)	<i>Support</i>	272089	\$37.35
	Small Worlds (Small Book) Copyright/ISBN 1989 / 0170076695 (Package of 4)	<i>Support</i>	272097	\$34.15
	Somewhere in the Universe (Small Book) Copyright/ISBN 1987 / 0170072886 (Package of 4)	<i>Support</i>	271776	\$32.00
	Tadpole Diary (Small Book) Copyright/ISBN 1987 / 0731209008 (Package of 4)	<i>Support</i>	271792	\$32.00
	What Did You Eat Today? (Small Book) Copyright/ISBN 1988 / 0170072916 (Package of 4)	<i>Support</i>	271734	\$32.00
	What Is It? (Small Book) Copyright/ISBN 1987 / 0732710107 (Package of 4)	<i>Support</i>	271784	\$31.80

Note: April 1998 LRDC prices are quoted.

SUPPLIERS

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3720 - 76 Avenue
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Fax: (403) 440-8899
Internet: <http://www.accesstv.ab.ca>

Learning Resources Distributing Centre
(LRDC)
12360 - 142 Street
EDMONTON, AB, CANADA T5L 4X9
Telephone: (403) 427-2767
Fax: (403) 422-9750
Internet: <http://www.lrdc.edc.gov.ab.ca>

REGIONAL RESOURCE CENTRES

ZONE 1
Zone One Regional Resource Centre
10020 - 101 Street
PEACE RIVER, AB, CANADA T8S 1S3
Telephone: (403) 624-3187
Fax: (403) 624-5941

ZONE 2/3
Central Alberta Media Services (CAMS)
182 Sioux Road
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